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ABSTRACT

This study examines the status and position of civic education and environmental education in the formal curricula of primary and secondary school systems in the Latin American and Caribbean (LAC) region. The study consists of two parts: (1) a review of the literature related to each subject and its status in the school systems and the LAC region; and (2) information gathered directly from the Ministries of Education in 15 countries of the region. The final reports from the study bring together the results of the review of literature and the questionnaire administered in each country. The reports have been prepared both in English and Spanish. Material in each report is organized in three main parts: Part I presents the analysis of the data; Part II, the individual country reports; and Part III, additional information about organizations active in these fields or other programs of interest. The study points to the need for: (1) teacher training in environmental education techniques and curriculum development that is part of the training process; (2) the development and maintenance of the political will of education authorities; and (3) collaboration in the development of environmental education programs between nongovernmental organizations and the official education sector. (LZ)

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U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Study of Civic Education and Environmental Education in the Primary and Secondary School Systems of Latin America and the Caribbean

Because the Education and Human Resources Division of USAID's Bureau for Latin America and the Caribbean (LAC) has extended its commitment to goals in the areas of democracy and the environment, in 1993 it undertook a study of two subjects of special interest—civic education and environmental education.

The relationship between an educated society and a democratic society is complex, but the relationship between an uneducated society and an authoritarian society is clear. Without education, democracy cannot flourish. Similarly the relationship between a society's level of education and its regard for the environment is complex. But without education, people will not be able to modulate powerful forces that strain the environment—population growth, in particular—nor will they understand how to demand and develop practices that promote environmental protection.

This study is preliminary in nature. It examines the status and position of civic education and environmental education in the formal curricula of primary and secondary school systems in the Latin American and Caribbean region. The study consists of two parts: (1) a review of the literature related to each subject and its status in the school systems of the LAC region and (2) information gathered directly from the Ministries of Education in fifteen countries of the region. For this study, civic and environmental education were defined in terms of imparting to children and young people the necessary knowledge, skills, and values to function as responsible citizens of their communities and countries.

The final reports from the study bring together the results of the review of literature and the questionnaire administered in each country. The reports have been prepared both in English and Spanish. Material in each report is organized in three main parts: Part I presents the analysis of the data; Part II, the individual country reports; and Part III, additional information about organizations active in these fields or other programs of interest.

The findings, conclusions, and recommendations expressed in this paper are the author's and do not reflect the official viewpoint of the U.S. Agency for International Development.

For further information about the results of this study or to obtain additional copies of the reports, please contact

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Environmental Education in the School Systems of Latin America and the Caribbean

Adalgisa Arias-La Forgia

1994

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Producing this report and its companion on civic education required patience, perseverance, and dedication on the part of many people. First and foremost, Leopoldo Garza, the deputy chief of the Education and Human Resources Division of USAID's LAC Bureau and the sponsor of this study, was steady in his sense of the importance of a study that crossed traditional boundaries to bring his office's concern with education together with USAID's goals for democracy and the environment.

The Academy for Educational Development (AED) designed and carried out this study under the guidance of Frances Hays, then the coordinator of the information component of the LAC Education and Human Resources Technical Services (EHRTS) Project. In each country, the EHRTS Project contracted with a local education researcher to gather the information requested in a questionnaire. These professionals carried out their task with diligence, supplying AED with excellent information in a short amount of time. The names of the researchers are listed on the following page. They all deserve special thanks.

Because of the complexity of coordinating a study in fifteen countries, several members of AED's support staff were invaluable in their attention to creating good communications with the local researchers. Laura Flores, Amy Markowitz, and Lorecia Roland made sure that no detail was forgotten in working at long distance with the researchers.

Of central importance to this effort were the two principal investigators—Eleonora Villegas-Reimers for the study of civic education and Adalgisa La Forgia for the study of environmental education. They both devoted many hours to reviewing and analyzing the information gathered from the countries. In civic education, the principal investigator also conducted an extensive search for literature relevant to the study. In environmental education, Roberto Martín conducted the review of literature. Each investigator prepared reports in draft form and then worked closely and carefully with the project editor and translators to produce final reports that would be as accurate and clear as possible to the users of this information.

As usual the job of taking draft reports through to final form was composed of many multifaceted tasks for the project editor. In this case, Eleanor Abrams did a superb job of both editing the English-language versions of the reports and coordinating the design and layout of the reports to enhance their ease of use. Manuel Muñoz-Carrasco translated the civic education report from English into Spanish, and Somers Estrada translated the environmental education report from Spanish into English. Lorecia Roland, the EHRTS project assistant, kept track of all details, disks, and contracts to make sure the four reports ended up in their correct final form.

My thanks to the entire team involved in the preparation of these reports.

Frances Hays
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PART I

ANALYSIS OF DATA

CHAPTER ONE

INTRODUCTION

Chapter One relates the overall purpose and structure of the survey on environmental education in fifteen countries in the Latin America and the Caribbean region. This chapter states the purpose of the study, discusses the objectives and methodology of the survey, defines *environmental education* as used in the study, and explains the organization of this report.

PURPOSE OF THE STUDY

The goal of this study is to determine the status and position of environmental education in the formal primary and secondary education systems of the countries of Latin America and the Caribbean. At the request of the United States Agency for International Development (USAID), the Academy for Educational Development (AED) carried out the study.

OBJECTIVES AND METHODOLOGY OF THE STUDY

In this study, information was obtained in two ways: by administering questionnaires to the Ministries of Education in fifteen selected countries and by analyzing the environmental education activities carried out by international organizations working in the region.

The field information was gathered through a survey of the Ministries of Education in fifteen countries: Mexico in North America, six countries in Central America, two Caribbean countries, and six countries in South America (see Part II for individual country reports). AED prepared a questionnaire that was administered in each country by a professional in the education field. The principal sources of information in each case were the Ministry of Education, the environmental education materials produced in that country, and the country's education curricula. In some Latin American countries, individual consultation with environmental education professionals verified specific information.

The study was directed toward compiling an inventory of the existing environmental education activities and materials in the region, as well as information on how environmental education is addressed in national curricula. To the extent possible, the formal education activities carried out by nongovernmental organizations were identified, and the status of teaching methods, instructional materials, and teacher training in environmental education was evaluated.

Various sources provided data for the analysis of environmental education activities carried out by international organizations. Gathering the data involved three steps: First, a detailed search was made of educational, scientific, academic, and environmental information sources. This search provided information on bibliographical references, studies, and documents about specific activities in environmental education. Second, organizations engaged in environmental education activities were contacted to request publications describing their activities and programs. Finally, individuals with knowledge of the topic as well as regional experience were interviewed for a more complete picture.

Through this broad search, the most active organizations were identified and detailed information on their activities and experiences was obtained. Formal education programs rather than isolated activities were emphasized.

This study presents only the official (Ministry of Education) view of the status of formal environmental education in each country surveyed. The study does not include surveys of schools or teachers or direct interviews with nongovernmental organizations (NGOs).

DEFINITION OF ENVIRONMENTAL EDUCATION

For this study, environmental education has been defined as a multidisciplinary component that prepares students to be responsible and informed citizens by helping them acquire the following:

- knowledge about the reciprocal relationships between individuals, society, and the natural world
- fundamental values regarding the importance of protecting or improving environmental quality
- skills and behavior reflective of critical thinking, decision-making, and action aimed at protecting environmental quality

Depending on the target population, information can be conveyed through environmental education in three ways:

- Formal environmental education takes place in schools (primary, secondary, and technical) and universities.
- Nonformal environmental education is targeted at communities through organized and nonorganized channels.
- Informal environmental education is carried out through the mass media.

This study is limited to formal environmental education.

ORGANIZATION OF THE REPORT

This report consists of three main sections. Part I contains the analysis of survey data, and describes the activities of international organizations involved in the development of formal environmental education programs in Latin America. Part II includes the individual country reports. Part III contains the annexes.

CHAPTER TWO

FINDINGS FROM THE SURVEY

Chapter Two presents the analysis of the data collected in fifteen countries in response to a questionnaire administered by a local education researcher. This information comes from the Ministries of Education and reflects the official status of environmental education in the curriculum. The first section of this chapter presents the general findings; it focuses on a regionwide picture of various aspects, such as the present status of environmental education, participation of nongovernmental organizations, materials, and teacher training. This section also includes a table that summarizes the present status of environmental education in each of the fifteen countries. The second section compiles information directly from the questionnaire (see Part III, Annex One for complete questionnaire) and offers the data as reported by each of the fifteen countries in the study (see Part II for individual country reports.) The third section offers conclusions from the study, and the final section lists recommendations to improve environmental education as it exists in the curriculum.

GENERAL FINDINGS

Status of formal environmental education: Acceptance and growth of formal environmental education in Latin America is shown by the following two points:

- Nine of the fifteen countries selected include a definition of environmental education in their curriculum.

- The same number of countries either have or are in the process of producing a national environmental education plan.

These data are significant given the short amount of time that this process has been underway. Another factor that may be contributing to the accelerated progress of environmental education in the formal educational sphere is the growing environmental awareness in the countries of the third world. A 1992 Gallup Institute study, *The Health of the Planet*, points out that protecting the environment has become a higher priority than economic development for people in poor countries as well as for those in rich countries. The study also states that a significant number of citizens accept and share responsibility for environmental problems. In addition, the United Nations Conference on Environment and Development (UNCED) has established specific objectives that will help donors focus their activities and establish priorities. This UNCED support will be a point of departure for reorienting environmental education activities so that they are no longer marginal components of environmental projects but instead can move into the vanguard of environmental education as projects in their own right.

Impact of the Rio Conference: From the time that the United Nations Conference on Environment and Development was first organized in 1988 and preparations began for the Rio Summit in June 1992, governments began to prepare documents on their anticipated national

environmental policies. These documents included a section on environmental education. After the summit, several significant changes substantiate the impact of this summit:

- Governments have begun to assume more responsibility for formal environmental education; before the Rio Summit this responsibility was almost exclusively the province of nongovernmental organizations.

- Environmental education has become an important focus in contrast to the previous situation when most environmental education programs were concentrated in the nonformal sector (see Chapter Three).

- The publication of most environmental education materials has revolved around this event. Of the selected countries, nine have published materials, and in seven cases, those materials date from between 1991 and 1993.

Participation by nongovernmental organizations: Nongovernmental organizations have done an excellent job with environmental education in the schools, but formal environmental education programs have progressed to a more advanced level and have become institutionalized only in countries where the government provides the main initiative and works with the nongovernmental organizations. The following table on the quality of formal environmental education programs reveals that Honduras, Costa Rica, Colombia, and Panama have the kind of indicators that put them a step ahead of the other Latin American countries studied. By contrast, Ecuador, for example, despite its impressive school-based program designed and directed by an NGO, Fundación Natura [the Nature Foundation], and approved by the Ministry of Education, has not been able to institutionalize environmental education at the formal level. Despite the effort that has gone into this long-standing environmental education program, it will probably end when the project funds run out (Education for Nature [EDUNAT III] Mid-term Evaluation, USAID/Ecuador, 1992, p. 26). As school systems take on more responsibility for environmental education, nongovernmental organizations will have more opportunities to work with the formal education system.

Environmental education in the curriculum: Although nine of the countries have a definition of environmental education that is similar to the one used as a guideline in the survey (education that focuses on establishing a bridge between the natural and social sciences, with an emphasis on teaching the environmental values, skills, and behaviors needed to create active and aware citizens), in practice most of the countries have tended to equate traditional natural sciences instruction with the teaching of environmental education. The analysis of curricula shows that, in most cases, teachers use traditional approaches to teach the natural sciences. For example, as appropriate to the specific level, teachers discuss water in terms of its composition and uses: for drinking, agriculture, cooking, etc. In other words, a utilitarian approach drives teaching about natural resources. Students are not taught about the consequences of misuse of water or about the impact of pollution and a shrinking water supply on animal, plant, and human life, which, in the final analysis, is what environmental education is all about.

Table 2.1

Quality of Formal Environmental Education Programs

Country	National Strategy/Program	Environmental Education in the Curriculum	Instructional Materials	Teacher Training	Department/ Program/ Office of Environmental Education
Argentina	2	1	1	C	1
Bolivia	3	1	3*	D	3
Chile	2	1	3	D	1
Colombia	1	1	1	C	1
Costa Rica	1	1	1	A	1
Dominican Republic	1	1	3	B	3
Ecuador	3	1	1	B	1
El Salvador	3	1	3	D	3
Guatemala	2	1	1	C	3
Honduras	1	1	1	C	1
Jamaica	3	1	3*	C	3
Mexico	2	1	1	D	3
Nicaragua	2	1	2	A	1
Panama	1	1	1	C	1
Peru	3	1	3	B	1

*	In progress	A	Ministry training
1	Already exists	B	NGO training
2	Proposed	C	Ministry/NGO training
3	Does not exist	D	Does not exist

Natural sciences content: The natural sciences content of curricula is an ideal vehicle for teaching environmental education in the schools. Efforts to promote an environmental approach should be directed toward changing teaching methods, as well as the inherent approach of the specific subjects. To achieve this in the schools, teachers need to be trained. However, in ten out of fifteen countries, teachers currently do not receive any training in environmental education; this lack of training reveals the gap that exists between the theoretical basis—the definition of environmental education—and actual educational practice. This gap—which is caused by a lack of trained personnel and appropriate instructional materials—makes it impossible for teaching to incorporate an environmental approach.

Teacher training: Teacher training is one of the most important ways of shifting the curriculum away from a traditional focus to a more environmental approach. For example, although

Argentina and Mexico possess teachers' guides for environmental education as well as some guidelines on environmental education in the curriculum, they still have not managed to incorporate an environmental approach in their current curriculum. This is because neither country has an official teacher training program. Teachers do not receive any instruction or encouragement in the environmental field and, therefore, do not make use of instructional materials even when they are available.

Teacher training should focus primarily on teaching methods, the use of new materials, and the inherent approach of the content. Most important, if the goal is to achieve a lasting impact on the development of environmental action, some mechanism for follow-up must be incorporated in the schools. In Ecuador, 8,000 teachers have participated in some 200 seminars on environmental education; however, the lack of adequate follow-up has led teachers to stop using the materials provided.

Instructional materials: The instructional materials available for environmental education in Latin America and the Caribbean are of high quality, but countries have no mechanisms for exchanging these materials. In seven out of fourteen countries with information available, materials are produced by NGOs and international organizations, such as the Peace Corps and World Wildlife Fund (WWF). However, despite the involvement of these international organizations, preparing documents and instructional materials is an isolated process in each country. A lot of money, time, and effort goes into preparing these materials. If an exchange mechanism were available, much of this effort would become unnecessary because most of the documents produced in any given country could be used, with a minimum of changes, in other countries.

Participation by teachers, professional associations, and nongovernmental organizations: Participation by teachers, professional associations, and nongovernmental organizations is important to the development of any environmental education program. These groups represent the community, and when they help prepare materials, the materials tend to reflect real environmental problems. Thus, teachers feel a strong commitment to environmental education when they use these materials.

SPECIFIC FINDINGS

General Information about the Education System

National curriculum or plan of studies: Most of the countries (eleven out of fifteen) have a national curriculum. Only Argentina, Colombia, Guatemala, and Peru have regional curricula. Costa Rica and Mexico are in the middle of a decentralization process. All the countries structure their curricula by levels and grades, although there are differences in the number of years per level. The curriculum is prepared by the Ministry of Education in all the countries that have a national curriculum and by the corresponding regional authorities in the countries with a decentralized education system. The Ministry also approves any adaptations of the curriculum for use in urban, rural, and private schools in all countries except El Salvador.

History of the curriculum: Almost all the countries (thirteen out of fifteen) launched educational reforms during the 1980s. A certain proportion of them (six out of fifteen) are still in the

process of educational reform. Only Argentina instituted educational reform before 1980. In eleven out of fifteen countries, curriculum reform came about in response to political changes. In the other countries, reform was the result of qualitative changes in the educational process. Most of the countries (twelve out of fifteen) incorporate a mechanism for updating the curriculum. In seven countries, changes in the curriculum are made with other governmental and nongovernmental institutions. All the countries—with the exception of those with regional curricula—distribute the curriculum to all national educational units. The curriculum is distributed through official channels in all the countries except Honduras, which sends it out by regular mail. Teachers are informed about the curriculum at workshops in nine of the fifteen countries.

Environmental Education

Curriculum: In nine out of fifteen countries, a definition of environmental education is included in the curriculum, and each country either has or is in the process of preparing a national environmental education strategy or program. Nine of the countries have a department, office, or program of environmental education under the Ministry of Education. In all the countries, environmental education is integrated into other subjects. Honduras also includes environmental education as an independent subject for the *bachillerato* [high school certificate] in environment. In ten of the countries, environmental education is integrated into subjects other than natural sciences. In eleven cases, environmental education is taught at the primary and secondary level. In ten of the countries, time is allocated in the curriculum for environmental education.

Teaching methods: In eleven of the countries, teachers use active methods to teach environmental education; and in the same number of countries, students are involved in participatory activities. Extracurricular activities are part of environmental education in eleven countries.

Instructional materials: In eleven out of fifteen countries, the Ministry provides environmental education materials to the schools. But of these countries, only nine provide teachers' guides on environmental education, and only seven provide student guides. About half of the materials were published after 1990. NGOs prepared close to half of the environmental education materials.

Teacher training: Teachers receive training in environmental education directly from the Ministry of Education in only five of the countries. In twelve cases, a general teacher training unit is under the Ministry. However, only seven of these countries provide follow-up on the teacher training plan.

School-based programs run by nongovernmental organizations: In eleven countries, nongovernmental organizations run school-based programs. Most of the environmental education materials available in Latin America and the Caribbean are prepared by NGOs or international organizations that collaborate with national entities. These NGOs are financed by international organizations in eleven of the countries, and more than 80 percent receive local financing.

CONCLUSIONS

The principal conclusions of this study are as follows:

Curriculum content: Countries that have incorporated environmental education into their curricula have done so by introducing an environmental component into existing subjects. This is a correct view of what environmental education is meant to be.

Most countries feel that environmental education has already been incorporated into their curriculum since they equate natural sciences content with environmental education.

Teaching methods: To shift the curriculum away from its traditional focus to a more environmental approach, it is necessary to provide teacher training in techniques for teaching environmental education. Formal environmental education has shown the most progress in the countries that have emphasized this kind of teacher training.

Education policy: Under the governments that have made environmental education part of the Ministry of Education policy, the program has grown rapidly and become institutionalized. This institutionalization ensures that environmental education will have a long-term impact on the education community. Therefore, governments need to assume responsibility for environmental education in the formal sphere.

Administration of environmental education: Until now, the administration of environmental education has been decentralized in most of the countries. Various institutions, such as national zoos or Ministries of Agriculture or the Environment, have been in charge of teacher training activities. NGOs have also played an important role in activities related to formal environmental education.

Role of the community and the family: The community has played an active role in implementing formal environmental education activities through NGOs. NGOs are responsible for most teacher training activities, as well as for the production of materials. However, parents have had only limited participation in environmental education activities in the education system.

RECOMMENDATIONS

- Providing training in environmental education must be a priority for implementing any project in this field in the countries of Latin America and the Caribbean.

- Training in environmental education should be carried out simultaneously for teachers and for the technicians who design curricula.

- To successfully develop a program of environmental education in Latin America, it is essential to have and maintain the political will of the authorities in charge of the formal education system. The official education system needs to be committed to environmental education.

- The production of environmental education materials should be made a part of the teacher training process. Teacher training workshops, as well as the individual teachers, should serve as resources for creating these materials.

- Collaboration in the development of environmental education programs should be encouraged between NGOs and the official education sector.

CHAPTER THREE

FINDINGS ABOUT INTERNATIONAL ORGANIZATIONS

Chapter Three presents the findings from the review of international organizations and their activities in environmental education. The chapter is divided into three major sections. The first section lists shortcomings of environmental education programs as they presently exist and recommendations for ensuring successful programs. The second section offers information on specific organizations that have been involved in promoting environmental education in the schools. The third section highlights activities that governments and donors could incorporate to ensure that environmental education becomes a permanent and effective part of the formal education system.

MAJOR FINDINGS SPECIFIC TO INSTITUTIONAL STUDY

- Although many donor organizations and international institutions do not have a strategic approach to their interventions, they have environmental education activities. Until recently, donor organizations, such as USAID, have focused their efforts in two areas: introducing environmental issues into the basic education curricula and disseminating project-related environmental materials. Some organizations develop teacher-to-teacher programs while others, such as World Wildlife Fund, work exclusively through partner nongovernmental organizations (NGOs). Although these activities have not been successfully incorporated into the national educational curricula, they have begun to develop public awareness of the importance of a healthy environment.

- The impetus for environmental education can come from the education sector, from the environmental sector, or from both. In the environmental sector, *environmental education* has traditionally meant disseminating information related to environmental projects rather than systematically incorporating environmental concepts into an educational program. The disadvantages of this project-by-project approach are two-fold: key environmental concepts are not transferred from one project to another and the educational components end when the project is completed.

- The relationships between Ministries of Education, which are directly responsible for integrating environmental education into the formal curricula, and environmental NGOs, which are primarily responsible for community-based environmental activities, need to be strengthened. This relationship is especially important in countries that do not have a government environmental unit that is viable and centralized.

- Environmental education activities must be directly relevant to the health and well-being of the target populations. For environmental education interventions to be successful, they need to be situation specific, adapted to local circumstances, and responsive to local needs.

- Teacher training is critical for successfully introducing environmental education into the school curricula at all levels. Both preservice and in-service training foster teacher motivation, a critical determinant of success.

ORGANIZATIONS MOST ACTIVE IN ENVIRONMENTAL EDUCATION

This section identifies those international organizations that have been most active in promoting environmental education in schools in the Latin American and Caribbean region. Each organization may approach environmental education differently. Some have a long history of involvement in educational programs; others have an environmental focus. Some work through established or formal channels, such as Ministries of Education; others target nongovernmental organizations. Some organizations develop teacher training programs, some produce materials, some design curriculum, and some offer a combination of activities.

United Nations Educational, Scientific, and Cultural Organization (UNESCO): In 1975, UNESCO launched the International Environmental Education Programme (IEEP) as recommended by the United Nations Conference on the Human Environment (Stockholm, 1972) and in cooperation with the United Nations Environment Programme (UNEP). Subsequently, the Intergovernmental Conference on Environmental Education (Tbilisi, USSR, 1977) invited UNESCO and UNEP to pursue their efforts to intensify the development of environmental education within the international community.

In accordance with recommendations of the Tbilisi Conference, environmental education was included in the objectives of UNESCO's First Medium Term Plan for 1977-1982. In the programs and budgets in 1978, 1980, 1983, 1985, and 1987, the General Conference approved environmental education activities. Environmental education was an integral part of UNESCO's Second Medium Term Plan for 1984-1987 and Third Medium Term Plan (1990-1995).

More than 140 countries from all regions of the world have been directly associated with IEEP activities. They have involved more than 12,000 teachers at different levels of in-school and out-of-school education, about 2,000 primary and secondary schools, over 100 universities in different regions, and more than 150 institutions concerned with training and educational research.

The IEEP has been particularly valuable in its role of organizing major international and regional meetings, carrying out studies, and implementing pilot projects. These activities have helped define more clearly the content of environmental education and the methods that will assist its further development. IEEP has assisted in forming interinstitutional committees that encourage incorporating environmental education into the national education systems. IEEP has organized a series of regional and subregional seminars for educational administrators on developing an awareness for environmental education. IEEP has also sponsored over 100 national training seminars and workshops for teachers and curriculum designers on the development of environmental education programs. Pilot research and experimental projects have led to the production of an integrated series of educational materials such as methodological guides, thematic modules, and manuals for training and retraining of teachers.

The multiplier effect of IEEP's activities at the international level will become increasingly evident as other agencies of the United Nations system and intergovernmental and nongovernmental organizations are brought together to devise programs in support of the objectives of the United Nations Conference on Environment and Development.

Peace Corps: Begun in 1987, the Peace Corps Environmental Education Initiative was designed to respond to increased requests for assistance in natural resource management and conservation. The Natural Resource Sector of the Office of Training and Program Support (OTAPS) designed the program with the following objectives:

- to increase the awareness of all Peace Corps Volunteers (PCV) about the environmental problems facing their host country and the world in general, and to teach them to address these problems
- to increase the conservation education and program development skills of volunteers responsible for environmental education projects
- to increase the number of volunteers in Peace Corps countries that are working in conservation education as a primary or secondary assignment

The Inter-America Region's environment sector consists of twenty-three projects in fifteen countries and accounts for 22 percent in FY92 and 27 percent in FY93 of PCV activity in the region. Increasing public awareness of and skills in appropriate environmental practices and improving teacher training—knowledge, skill, and experience—in environmental education are among the goals for projects in the environment sector. The Peace Corps is also attempting to integrate environmental education and practices within the activities of other sectors.

United States Agency for International Development (USAID): USAID has addressed environmental education issues in several projects in the region. However, USAID's long experience in basic education and educational reform has not been used to support environmental objectives.

Most environmental education interventions have been project-specific—designed to ensure that environmental activities financed and undertaken by USAID are understood and supported by local populations. In Costa Rica and Ecuador, where USAID has worked extensively with strong and capable NGOs, environmental education has been brought to the forefront. The length of USAID's involvement, the credibility of the NGOs with the government and the local communities, and a base level of environmental awareness of the citizenry have created a situation where environmental education plays an important role in supporting the country's social and economic well-being.

Through the recently awarded GREENCOM project, USAID is seeking to adopt a new approach to environmental education. This project will combine education and communication approaches that have been developed and tested over the last two decades, including behavioral psychology, anthropology, communication research, instructional design, and social marketing.

Studies have shown that there has been marked success in a variety of fields in changing public attitudes and behaviors through such approaches. The challenge is to apply these techniques and methods to raise awareness and motivate behavior in support of more sustainable natural resource management.

World Wildlife Fund (WWF): Although WWF until recently has not had a separate program that focuses exclusively on environmental education, the environmental education activities of the World Wildlife Fund are widespread and long-standing. A primary objective has been to have environmental education activities in support of projects. As such, WWF has emphasized working with partner NGOs in producing and disseminating environment-related materials.

After several years, WWF realized that the funding of small or isolated projects had not really produced the expected results. Therefore, WWF decided to concentrate its activities in a few focal countries. For each of these countries, WWF prepared country plans that define long-term strategies. To develop these plans, WWF consulted local authorities and frequently established a formal agreement with the government. The country plans are implemented locally and supervised by the WWF country team. All WWF International environmental education experts, consultants, employees, or coordinators are nationals of the country where they work. This support is essential for a successful long-term project. WWF's strategy has been threefold: (1) function in a limited, but important, catalytic role to initiate a project; (2) keep a modest profile with respect to implementation; and (3) maintain a sustained function as supervisor or fund-raiser.

To date, WWF International is not directly involved in developing and implementing environmental education activities in Latin America and the Caribbean. Working through WWF-United States, WWF national organizations in the region are benefitting from experiences in Africa and Asia.

Organization for Economic Cooperation and Development (OECD): The Development Centre of the OECD, an autonomous body, conducts policy-oriented research on emerging issues in international economic relations, development, and interdependence, and initiates dialogues with developing countries on development needs, options, and policies and on problems of mutual concern. In its most recent report on environmental education, the OECD views environmental education as an instrument that can be used to face environmental problems. Environmental education can complement or substitute other policy (regulatory and economic) instruments: it can complement in that knowledge of environmental issues smooths the way for policy and economic reforms; it can substitute for other measures because environmental education can bring about changes in people's behavior that make other measures superfluous.

North American Association for Environmental Education (NAAEE): The activities of NAAEE have until recently been primarily targeted at environmental educators and organizations in North America. However, in the last few years, activities have also focused on organizations in Mexico, and now NAAEE activities are reaching out to other Latin American countries.

The 1992 World Congress on Environmental Education, held in Toronto, Canada, gave rise to a network of Latin American and North American environmental education specialists. This network, called EcoLink, has filled a void and has encouraged members to creatively think about

leveraging interest in this country to promote environmental education in Latin America. Members of EcoLink who attended the First Iberoamerican Congress on Environmental Education, held in Guadalajara, Mexico in November 1992, report the following conclusions:

- To develop more appropriate strategies, greater attention must be given to evaluation and follow-up of environmental education interventions in the schools. This has been a weakness of many of the project-specific environmental education activities of international organizations.

- Donor agencies and international organizations must strengthen cooperation and regional exchange to channel funds for projects of mutual interest.

- Activities in countries where environmental education is the domain of environment ministries must be brought in conjunction with activities of education ministries.

World Resources Institute (WRI): The World Resources Institute, which maintains extensive relationships with NGOs, donor organizations, and national development agencies, has initiated an effort to introduce high quality environmental teaching materials into school systems in the Latin America and Caribbean region. Most widely known for its flagship publication, *World Resources Report*, WRI has created a teachers' guide to accompany it. Forty-five reviewers (including educators, NGO representatives, policy makers, and students) in eleven countries in the Latin America and Caribbean countries have provided feedback to WRI on how to best tailor the information in the *Report* for school audiences in nonindustrialized countries. While there appears to be considerable interest in such a teaching guide, different countries have taken different approaches to its format and content, ranging from modest tailoring of the information for local or national relevance to complete in-country translation and production of the guide.

National Geographic Society: The National Geographic Society, the world's largest nonprofit scientific and educational organization, was founded with the goal of increasing and diffusing geographic knowledge. The Educational Media Division supports the Society's mission by developing for the classroom innovative applications of telecommunications and multimedia tools, such as the Kids Network. Funded in part by the National Science Foundation, the Network is a telecommunications-based, hands-on science and geography curriculum for the fourth through sixth grades. The Society has produced seven units dealing with environmental issues and has obtained subscriptions from schools in Brazil, Mexico, Peru, Bermuda, and Cuba, although they are mostly U.S. government-affiliated schools (embassy, DOD, etc).

GLOBAL SUPPORT FOR ENVIRONMENTAL EDUCATION

Education, the raising of public awareness, and training are linked to all areas in Agenda 21, the consensus document on sustainable development resulting from the United Nations Conference on Environment and Development (UNCED). Education is critical for promoting sustainable development and improving the capacity of people to address environmental and developmental issues. Formal and nonformal education is also critical for achieving environmental and ethical awareness, values, attitudes, skills, and behavior consistent with sustainable development and for effectively participating in decision making.

To further these objectives, the following activities were proposed:

- All countries are encouraged to endorse the recommendations of the Jomtien (Thailand) World Conference on Education for All and strive to ensure its Framework for Action.

- Governments should strive to update or prepare strategies aimed at integrating environment and development as a cross-cutting issue into education at all levels within the next three years.

- Countries are encouraged to set up national advisory environmental education coordinating bodies that represent environmental, developmental, educational, gender, and other interests (including NGOs) to encourage partnerships, help mobilize resources, and provide a source of information and focal point for international ties.

- Educational authorities, with the appropriate assistance from community groups or NGOs, are recommended to assist or set up preservice and in-service training programs for teachers, administrators, and educational planners, as well as for nonformal educators.

- Educational authorities should ensure that every school is assisted in designing environmental activity work plans with the participation of students and staff.

- Educational authorities should promote proven educational methods and the development of innovative teaching methods and should recognize appropriate traditional education systems in local communities.

- Within two years, the United Nations system should undertake a comprehensive review of its environmental education programs, including training and public awareness activities to assess priorities and allocate resources.

The Conference Secretariat has estimated the average total annual cost (1993-2000) of implementing this entire program to be about $8 billion to $9 billion, including about $3.5 billion to $4.5 billion from the international community on grant or concessional terms.

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PART II

COUNTRY REPORTS

ARGENTINA

General Information about the Educational System

Structure of the National Curriculum

The curriculum in Argentina is decentralized by jurisdiction. Each jurisdiction is equivalent to a province; therefore, the educational system can be said to have twenty-three curriculum formats that cover the primary and secondary levels.

The curriculum is structured by grade at two levels:

- Primary
  - Cycle I (grades 1 to 3)
  - Cycle II (grades 4 and 5)
  - Cycle III (grades 6 and 7)
- Secondary
  - Basic cycle (grades 1 to 3)
  - Technical cycle (grades 4 and 5, and sometimes 6)

History of the National Curriculum

The national curriculum was decentralized in 1983 when responsibility for its preparation was handed over to the jurisdictions or provinces. The findings of a comparative study of current provincial curricula indicate the following:

- The general content of many of these curricula is adapted from the minimum content prepared by the Federal Education Council in 1979.
- In many cases, there is no correspondence between the curriculum and actual educational practice, giving rise to a so-called "hidden curriculum."
- There is no community participation in preparing these curricula and, therefore, no coordination between local and national objectives.
- The continuous curriculum updating process in some jurisdictions limits follow-up and evaluation.

Environmental Education

General Description of Environmental Education in the Curriculum

Argentina's education curriculum uses the definition of environmental education that was framed in the Belgrade Charter of 1975: Environmental education classifies values and seeks solutions to important environmental problems. Its primary goal is to improve the relationships between people and nature, as well as human interrelationships. Ministry of Education Resolutions 270 and 272 created the Program on Education and Environment in July 1991. This is the unit responsible for producing the environmental education curriculum.

Environmental education is integrated into all subjects at the primary level, as well as in the basic cycle at the secondary level. It is not possible to measure the amount of time devoted to environmental education because it is an integrated dimension. Although environmental education is outlined in the curriculum, it is not yet being implemented as such.

Environmental Education in the Curriculum

Argentina

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Geography
Primary	• Conservation of natural resources		X	
Secondary	• Studies of ecosystems; energy, gases	X		X

Teaching Methods

At the primary level, a participatory methodology that is based on the use of games, skits, and stories is beginning to be implemented. More traditional activities are used at the secondary level, where changes have not yet been introduced.

Instructional Materials

The Ministry of Education provides materials for the primary and secondary levels. For example, the book *Convivencia Ambiental: El Gran Desafío* [*Living with the Environment: the Big Challenge*] (1992) is beginning to be used at the primary level. Teacher's guides are also available for primary and secondary school teachers. The Program on Education and Environment prepared all of these guides in 1991. The provinces produced other materials that are available as well.

Teacher Training

There is no official program of teacher training in environmental education. However, teachers are being trained through a series of environmental education workshops. These workshops are

being presented by the Argentine Environmental Education Network, with technical support from the Peace Corps, the Embassy of the United States, and the Program on Education and Environment.

Supervision is handled by groups that are left set up after each workshop, but there is no Ministry follow-up. These groups are made up of government representatives along with representatives of nongovernmental entities (municipal officials, representatives of nongovernmental organizations, etc.).

School-based Programs Run by Nongovernmental Organizations

Some nongovernmental organizations (NGOs) carry out, on an irregular basis, activities such as lectures, contests, or training workshops. Only one NGO is mentioned—Conciencia [Awareness]—and, according to the information in the questionnaire, it is nationally funded.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

BOLIVIA

General Information about the Educational System

Structure of the National Curriculum

Although the Bolivian educational system has a single curriculum covering the primary and secondary levels, some flexibility is built in so that it can be adapted to rural and urban areas.

The curriculum is structured by grade at two levels:

- Primary
  - Prebasic cycle (ages 0 to 5 years)
  - Basic cycle (grades 1 to 5)
  - Transitional cycle (grades 1 to 4)
- Secondary
  - Common basic and differentiated cycle (grades 1 to 4)

The national curriculum is designed by the National Office for Technical Pedagogical Services, which works through the National Department of Curriculum.

There are some modifications in the curricula for urban and rural schools, as well as differences in private as opposed to public school curricula. Teachers make these adaptations, and the Ministry of Education and Culture approves them. Supervision occurs only occasionally.

History of the National Curriculum

The educational curriculum was evaluated in 1975 and 1988. The revisions in the curriculum reflect periodic political changes. Teachers, with educators, union groups, and technicians from the Department of Curriculum, are responsible for updating the curriculum.

Distribution of the Curriculum

The curriculum is distributed at the planning, administrative, and teacher training levels. The material is disseminated through the general and national offices of the Ministry of Education and Culture. Teachers are informed about the curriculum through educational workshops, seminars, and symposiums presented by the National Office for Technical Pedagogical Services. These organizations also distribute teaching guides and bibliographic material at the national level.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is defined as "a subject that helps to increase pupil awareness of the importance of protecting and conserving the environment."

The Department of Curriculum, a unit of the National Office for Technical Pedagogical Services, is in charge of the curriculum in general, as well as the preparation of materials. Environmental education is not a separate subject, but rather is included as part of education for health, agricultural and livestock sciences, social studies, and natural sciences at the primary level only. Environmental education is presented during one school period per week for 45 to 60 minutes in the lower grades and for 90 to 120 minutes in the upper grades.

Environmental Education in the Curriculum

Bolivia

Grade/Level	Thematic Content	Natural Sciences/ Health	Social Sciences	Geography	Agricultural and Livestock Sciences
Grade 1	• Using the latrine • Keeping our school clean	X X			
Grade 2	• Soil types • Natural resources • Water, air, light, and heat	 X	X		X
Grade 3	• Reforestation, natural resource management				X
Grade 4	• Soil fertility • Latrine building • Atmospheric phenomena	 X X			X
Grade 5	• Soil erosion • Plant communities	 X		X	

Teaching Methods

The minimum content on environmental education is taught via hands-on activities: clean-up projects, visits to institutions, field trips, and skits at the primary level, along with latrine building, clean-up campaigns, and research reports. Other activities include reforestation campaigns, projects to eliminate stagnant pools of water, and contests.

Instructional Materials

Instructional materials on environmental education are part of the integrated textbooks that the Ministry of Education distributes to the country's primary and secondary school students. The Department of Curriculum prepared these books between 1988 and 1989 for both the rural and urban setting.

Teacher Training

Teachers do not receive any specific training in environmental education. However, the Ministry of Education, which is in charge of teacher training, uses normal schools, departmental educational support services, and the distance education program for professional training. There is no follow-up to evaluate teachers.

School-based Programs Run by Nongovernmental Organizations

Three organizations have school-based programs:

- The Centro de Multiservicios Educativos (CEMSE) [Center for Multiservice Education] runs The Environment Club, a program that allows students aged 10 to 17 to participate in laboratory activities on soil erosion, soil types, and other topics. CEMSE receives economic support from the Ministry of Education and the Social Investment Fund.

- The Interinstitucional Educación Popular (IEP) [Interinstitutional Popular Education] implements the program, One More Teacher. This program consists of community conservation projects that are carried out during one of the class periods allocated to agricultural and livestock sciences. These hours of work are included in the school calendar. IEP receives financing from the Ministry of Education and the European Community.

- The Liga de Defensa del Medio Ambiente [Environmental Defense League], a governmental organization, is working with the Asociación Ecológica del Oriente [Eastern Ecology Association] on a new project. This project is targeting 100 schools in La Paz, Santa Cruz, and Cochabamba. During the initial phase it will operate as a pilot project and will subsequently be expanded to provide environmental education services to other schools. This project is financed by internal project funds.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

CHILE

General Information about the Educational System

Structure of the National Curriculum

The national curriculum is structured in two levels:

- Primary (general basic education)
  - Cycle I (grades 1 to 4)
  - Cycle II (grades 5 to 8)
- Secondary (middle education)
  - Science/humanities (grades 1 to 4)
  - Technical/professional (grades 1 to 4)

The Ministry of Education designs the national curriculum and approves variations. These variations are based on ethnic considerations—for example, at the Hebrew College—or methodological ones—for example, the program on logical method at the national university. Specialists at the schools where the variations will be incorporated design these curricula.

History of the National Curriculum

The national primary school curriculum was initially revised in 1980; the secondary school curriculum, in 1981. The curriculum has again been undergoing revision since 1992. In both cases, the revisions have been in response to a mandate from the government. For the most recent revision, a Ministry of Education commission, which has consulted with various institutions and organizations, such as the Metropolitan University, the Teachers' Association, the Chilean Language Academy, and others, has been formed.

Distribution of the Curriculum

The curriculum is distributed to teachers through the Regional Secretariats of the Ministry of Education and the Provincial Departments of Education. The curriculum can also be obtained through the education newsletter published by the Ministry of Education. The actual distribution is carried out by the Ministry's central agency. Teachers at the primary level are informed about the curriculum by their principals; teachers at the secondary level, by their technical directors or principals.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is not defined at any level. Since 1992, the possibility of including environmental education at the primary level has been under study.

The Subcommission on Environment has been formed within the Ministry of Education and is in the process of drafting a proposal. The Center for Educational Improvement, Experimentation, and Research is carrying out a pilot program on environmental development (PRODAM), which involves working with education supervisors at the Ministry of Education.

Environmental education is integrated into natural sciences education at the primary level (grades six to eight) and into natural sciences and geography at the secondary level (grades one to four). Individual teachers decide how much time to devote to environmental education.

Environmental Education in the Curriculum

Chile

Grade/Level	Thematic Content	Natural Sciences	Geography
Grade 6/Primary	• Relationships between living things and their environment	X	
Grade 7/Primary	• Relationships between living things and their environment	X	
Grade 8/Primary	• Conservation of the environment	X	
Grade 1/Secondary	• Importance of natural resources	X	
Grade 2/Secondary	• Force and pressure	X	
Grade 3/Secondary	• Energy exchange between organisms and the environment	X	
Grade 4/Secondary	• The urban and rural world		X

Teaching Methods

At the primary level, students participate in activities such as clipping articles, keeping notebooks, reading newspapers, taking field trips, and creating murals about the environment. At the secondary level, students are involved in research activities, field studies, discussions, and organization of brigades.

Instructional Materials

The Ministry of Education provides the primary level with the natural science textbooks that include units on environmental education. The Ministry chooses these textbooks from among those available on the market. Individuals hired by the publishing companies prepare the actual materials.

Teacher Training

Teachers do not receive any official training in environmental education. Some training courses in this area are offered by universities and nongovernmental organizations (NGOs) recognized by the Center for Educational Improvement, Experimentation, and Research. There is no follow-up for teachers.

School-based Programs Run by Nongovernmental Organizations

Two NGOs carry out teacher training activities:

- Canelo de Nos works at the regional level to train some thirty teachers in each workshop it presents. These one-week workshops are conducted biannually. Canelo de Nos prepares its own workshop materials and receives financing from Canada, as well as from the Chilean National Energy Commission.

- The Centro de Investigación y Desarrollo de la Educación (CIDE) [Center for Educational Research and Development] also holds two workshops per year, but they are not restricted to teachers. CIDE prepares its own workshop materials and receives funds from many donors, especially in Europe.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

COLOMBIA

General Information about the Educational System

Structure of the National Curriculum

Colombia is in the midst of a process of political change or decentralization that is affecting all government structures, including curricula and the approaches used for the follow-up, management, and evaluation of educational programs. Colombia does not have a single national curriculum. General curriculum guidelines are available only for the basic level (grades one to nine). Schools at the secondary level (grades ten and eleven) may design their own curricula, although efforts are currently underway to prepare a proposed curriculum for these grades.

The educational system is divided into two levels:

- Basic Education
  - Primary basic (grades 1 to 5)
  - Secondary basic (grades 6 to 9)
- Middle (Secondary) Education (grades 10 and 11)

Grade 0 was introduced as part of preschool in 1990.

Curriculum guidelines are designed by the Division of Design and Programming of the Formal Curriculum, a unit under the Assistant Office of Pedagogical Development of the Ministry's General Education Office.

History of the National Curriculum

The Colombian educational system began a restructuring process in 1976 under a policy known as "improving educational quality." Curriculum reform was one of the strategies that culminated in official approval of a new curriculum in 1984. This curriculum remains in effect and covers grades one through nine.

Since the curriculum went into effect, updating has been handled by the Division of Design and Programming of the Formal Curriculum. Changes in the curriculum are made in three ways: (1) national meetings attended by university, primary school, and secondary school teachers, along with technicians from pilot experimental centers; (2) national conferences; and (3) regional seminars (Colombia has six regions).

The current trend is to prepare general basic and secondary education national curriculum guidelines that can be adapted in each region and locality. Curriculum decentralization is being attempted on an experimental basis at the regional, departmental, and municipal levels. Departmental and Municipal Education Secretariats will prepare the regional or departmental curricula. Since 1992, the Ministry of Education has approved the proposed regional curricula. Ministry professionals and technicians are responsible for supervising these curricula.

Distribution of the Curriculum

The curriculum is distributed through the Pilot Experimental Centers and the Departmental and Regional Education Secretariats. Teachers receive copies of the curriculum guidelines and instructions covering their specific areas through regional and national workshops directed by the experimental centers.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education has not yet been defined in the curriculum because it is still in the process of being revised. A national environmental education plan is in the process of being adopted. However, the Ministry of Education's Environmental Education Program, which coordinates this facet of curriculum reform, defines environmental education as "an action that should promote respect for and awareness of appropriate management of the environment, generating positive attitudes in the Colombian population toward their environment, both natural and social, and helping individuals and groups to identify and understand the role they play as an integral part of that environment." The definition also adds that environmental education should be interdisciplinary and participatory.

At the present time, environmental education is integrated into the natural sciences subject area. The coordinator of this area belongs to the Ministry of Education's Division of Design and Programming of the Formal Curriculum. In addition, a team implements the Environmental Education Program. Environmental education is taught in all nine grades of the basic level. The overarching thematic content of the units is the same in each grade, but the material is covered progressively and at increasing levels of difficulty. The main topics are (1) relationships among living and nonliving things and between the living and nonliving worlds and human beings and (2) the universe, including the influence of the sun, the planets, and other celestial bodies on the environment, as well as biodiversity, soil, and natural resource conservation.

Environmental Education in the Curriculum

Colombia

Grade/Level	Thematic Content	Natural Sciences/Health
Grade 1	• Relationships among living things	X
Grade 2	• How organisms adapt	X
Grade 3	• Renewable and nonrenewable resources	X
Grade 4	• Biological communities and populations	X
Grade 5	• Life cycles of organisms	X
Grade 6	• The ecosystem	X
Grade 7	• Biotic and abiotic factors	X
Grade 8	• Ecological factors	X
Grade 9	• Biodiversity and taxonomy	X

Environmental Education as a Proportion of the Total Natural Sciences and Health Curriculum

Grade	Number of environmental education units per week/total units
1	5/12
2	7/15
3	5/18
4	8/20
5	7/19
6	1/5
7	1/5
8	1/5
9	2/5

Note: The actual time spent on each unit is determined by the individual teacher.

Teaching Methods

Teachers use a combination of participatory and traditional methods at both the primary and secondary levels, with the level of challenge being increased for activities at the secondary level.

- Participatory Methods
  - field trips
  - posters
  - experiments
  - analysis of readings
  - round table discussions
- Traditional Methods
  - lectures by the teacher
  - lectures by visiting professionals

Schools are also involved in setting up ecology groups with the support of nongovernmental organizations (NGOs) active in the field of environmental education.

Instructional Materials

The Ministry of Education's Environmental Education Program provides books on topics relating to ecology and the environment, along with guides for teachers and students. All of these materials were recently published, dating from the end of 1992 or 1993, and were prepared by the Environmental Education Program. The services of the Environmental Education Institute at the National University and the Division of Escuela Nueva (New School) are used occasionally. For example, the *Guía de Ciencias Naturales* [*Guide to Natural Sciences*] for students was prepared by the Division of Escuela Nueva. It is important to note that an environmental map of Bogota is available as a teaching resource for environmental education.

Teacher Training

There is no structured program of teacher training, but the Environmental Education Program provides teacher training through workshops, conferences, and activities coordinated with NGOs. The program is producing some general guidelines for the teaching of environmental education.

The Pilot Experimental Centers carry out regional follow-up on training activities. However, follow-up is considered to be weak because the results only reach as far as the departmental level. The Ministry's participation in the process is limited.

School-based Programs Run by Nongovernmental Organizations

Working mainly with national funds, NGOs play a strong role in the development of formal environmental education activities. For example, the ecology groups/associations provide advisory services to schools that have an environmental education component in their curriculum for *bachillerato* [high school certificate] studies. NGOs also offer teachers training workshops. Teacher training is an ongoing activity of one NGO, the Risaralda Ecology Groups. NGOs also produce materials that are used as training resources in teacher workshops. In 1993 the Chocó Ecology Association trained 250 teachers. Similar results have been achieved in other regions of the country. On the whole, teacher training is the responsibility of NGOs.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

COSTA RICA

General Information about the Educational System

Structure of the National Curriculum

Costa Rica has a national curriculum in both the primary and the secondary levels, but its implementation may vary slightly according to the region of the country.

The educational system is divided into four cycles, two in primary and two in secondary education. Each cycle has three grades:

- Primary
  - Cycle I (grades 1, 2, and 3)
  - Cycle II (grades 4, 5, and 6)
- Secondary
  - Cycle III (grades 7, 8, and 9)
  - Cycle IV (grades 10 and 11; grade 12 is optional in technical high schools)

The curriculum is designed by national advisors from the Ministry of Public Education. Some variations of the national curriculum accommodate specific urban and rural needs, as well as the regionalization process underway in the country. The Higher Education Council approves any changes to the curriculum.

History of the National Curriculum

The academic education component of the curriculum was revised in 1991-92; the technical education component, in 1992-93.

The driving forces behind this curriculum reform were teacher requests for change and the political will of the new government. Teachers and official agencies are in charge of updating the curriculum. The central academic education team, the Minister of Education, the Vice-Minister, and the Minister's advisors also participate in this process.

Distribution of the Curriculum

The curriculum is distributed to all public and private schools, regional offices, higher education institutions, and documentation centers. It is periodically given to the regional offices. The regional advisors are responsible for informing teachers about the curriculum.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is included in all programs. It is defined as "education which promotes a change of attitude that helps students learn how to administer their resources and take the measures necessary to ensure that future development efforts pose no threat to the environment."

The Department of Academic Education and the Advisory Unit on Environmental Education prepare the curriculum. The latter prepares environmental education materials. In addition, the National Ecology Program prepares other teaching materials.

Environmental education is integrated into all the other subjects—natural and social sciences, mathematics, Spanish, and fine arts—and is taught at all levels.

One environmental education lesson is presented per week in cycles I and II, while most of one academic quarter is devoted to environmental education in cycle III.

Environmental Education in the Curriculum

Costa Rica

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Mathematics	Arts
Cycle I, Grades 1-3/Primary	• Hygiene	X	X	X	X
Cycle II, Grades 4-6/Primary	• Environmental conservation; protecting animals	X	X	X	X
Cycle III, Grades 7-9/Secondary	• Sustainable development; protecting watersheds	X	X	X	X

Teaching Methods

Teachers use the participatory methodology. At the primary level, students create collages, participate in trips around school and community to observe natural resources, and review articles. At the secondary level, students go on study trips, complete research projects, prepare projects, and maintain green areas. Other important activities include ecology festivals, discussions of the Earth Summit accords, education for peace, and ecology clubs.

Instructional Materials

The government does not directly distribute materials, but teachers do have available to them teaching resources, such as *Ambiente en Acción* [*Environment in Action*], a teacher's guide on environmental education prepared by the Peace Corps, and educational posters, accompanied by a teacher's guide, a video for each region, and audiovisual material. Teachers also have access

to various magazines containing teaching material for environmental education. These materials date from 1991. Ministry of Education advisors work with the National Center on Teaching to prepare instructional materials.

Teacher Training

Teachers are trained through workshops and conferences that use the plan of studies as a basis for promoting environmental education. Regional and national advisors are responsible for both training and follow-up.

School-based Programs Run by Nongovernmental Organizations

Nongovernmental organizations (NGOs) are involved in training teachers, preparing support material, and providing financing for audiovisual materials. At least thirty-two NGOs play some role in school-based environmental education activities in Costa Rica.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

Dominican Republic

General Information about the Educational System

Structure of the National Curriculum

The Dominican Republic has a national curriculum that covers all levels from preprimary through secondary and is structured by level and grade as follows:

- Preprimary (grades 1 to 3)
- Primary (grades 1 to 8)
- Middle (secondary)
  - Technical (grades 1 to 4)
  - Science/humanities (grades 1 to 4)

The curriculum is designed by the Ministry of Education, Fine Arts, and Religion (SEEBAC) in collaboration with universities, normal schools, and teachers. The final version is restructured by the Ministry's General Office of Curriculum and Educational Resources.

History of the National Curriculum

The national curriculum began to undergo a restructuring process in 1977. As a result, grades seven through eight were added to the primary level instead of being in a separate middle school level as they had been previously. This reform movement was strengthened by the political changes that occurred in 1978. In 1989, the programs for grades one and two were revised. At present, all the remaining programs in the curriculum are being revised. Research is conducted to keep the curriculum up-to-date. Technicians from the General Office of Curriculum and Educational Resources work with university professors, specialized technicians in the specific subject areas, and teachers to revise the national curriculum.

Distribution of the Curriculum

The curriculum is distributed to the regional education offices, which pass the information on to the corresponding school districts in each region. The districts are then responsible for distributing the curriculum to the school principals. Copies of the curriculum are delivered to the regional offices in person. Teachers are informed about the curriculum at workshops that provide information on programs and their use.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is defined as the action of trying to create awareness of the importance of conserving natural resources and to change attitudes toward those resources to ensure their future availability. The Ministry of Education does not offer a specific unit that addresses environmental education. Environmental education activities are coordinated by the Department of Education on Population. However, the National Commission on Environmental Education prepares the national environmental education strategy.

Environmental education is integrated into the natural and social sciences from grades three to eight. The time devoted to environmental education is 10 percent of total class time in the grades indicated below.

Environmental Education in the Curriculum

Dominican Republic

Grade/Level	Thematic Content	Natural Sciences	Social Sciences
Grade 3/Primary	• Living things and their environment	X	X
Grade 4/Primary	• Living things and their environment	X	X
Grade 5/Primary	• Living things and their environment	X	
Grade 6/Primary	• Geographic landscapes and modes of life	X	X
Grades 7 and 8/Primary	• Reforestation • Regions of the Dominican Republic	X X	X X

Teaching Methods

The activities most commonly used by teachers are visits to places such as the zoo, the botanical garden, the aquarium, and national parks. Less often, research and skits are used. Whether or not active methods are used in either primary or secondary schools depends largely on the motivation of the individual teacher. In the classroom, students are generally required to perform passive activities such as receiving lectures, listening to the teacher, and copying information. Students do participate in other activities—reforestation days, creation of gardens, competitions, etc.—depending on the teacher's willingness to become involved. Students pursuing a *bachillerato* [high school certificate] must complete 40 to 60 hours of social service, which often consists of reforestation activities.

Instructional Materials

SEEBAC provides general guidelines that list objectives for education on population and environment. No materials are available on the teaching of environmental education. The Ministry of Agriculture and the National Zoo of the Dominican Republic (ZOODOM) produced some methodological guidelines on environmental education for teacher training in 1990.

Teacher Training

Teachers participate in training workshops given by ZOODOM under a regionally targeted program financed by WWF. Some groups of teachers have received training through courses and workshops sponsored by UNESCO, the Peace Corps, the National Aquarium, and the Ministry of Agriculture. Although these programs are presented with the approval of SEEBAC, there is no official program of teacher training. The Santo Domingo Technological Institute offers a graduate program in environmental education. Technicians from SEEBAC and ZOODOM along with teaching staff from the graduate program in environmental education take part in teacher training. There is no follow-up of activities because the necessary personnel and mechanisms are unavailable.

School-based Programs Run by Nongovernmental Organizations

Some nongovernmental organizations (NGOs) collaborate on an irregular basis in school-based environmental education activities.

- Pro-Natura is implementing a reforestation program at schools in the capital.
- Pro-Vive is conducting a program to establish nurseries in the schools.
- The Centro de Educación Ecológica [Center for Ecology Education] is working with three schools in the capital to present workshops, set up gardens, and hold conferences on environmental education.
- The Fundación Dominicana de Estudios Marinos [Dominican Foundation for Marine Studies] works in Puerto Plata province offering lectures on marine resources.
- The Peace Corps sponsors teacher training workshops.

These institutions prepare the materials that are used for their respective activities.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

ECUADOR

General Information about the Educational System

Structure of the National Curriculum

Ecuador's single national curriculum is structured by level and grade as follows:

- Preprimary (1 grade)
- Primary (grades 1 to 6)
- Secondary
  - Basic cycle (grades 1 to 3)
  - Diversified cycle (grades 4 to 6)

The National Planning Office of the Ministry of Education and Culture, with the help of teachers in the specific level and subject, members of the teachers' union, and members of other educational institutions, is responsible for preparing the curriculum.

There are variations of the curriculum, such as the curricula prepared for private schools or those that are adapted to different language groups. The Ministry approves the curriculum for bilingual education, while the various provincial education offices approve the curricula for private education. These specialized curricula are designed by the educational teams at each private establishment and the National Bilingual Education Office, with participation by indigenous organizations and the multidisciplinary technical teams associated with special educational improvement projects.

History of the National Curriculum

The national primary level curriculum was updated in 1984; the diversified cycle curriculum, in 1978. The changes at the primary level were in response to the reform law issued by the National Congress in April 1983. At present, based on the findings of the "Education for the 21st Century" survey, a process of general curriculum reform is being initiated. Education directors and institutions, representatives of the teachers' union, ministry officials, and teachers from the different levels and grades update the curriculum.

Distribution of the Curriculum

The curriculum is distributed to Provincial Education Offices, national and provincial supervisors, secondary school principals, the National Union of Educators, institutions for advanced normal school training, and special educational improvement projects by official communications that are sent out by regular mail from the National Planning Office. The curriculum is also distributed through national and provincial supervisors and at informative meetings. Teachers obtain additional information at advisory meetings and in-service training courses.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is defined in the curriculum as "an interdisciplinary philosophy aimed at promoting knowledge, protection, and rational and equitable use of natural environmental resources, as well as respect and appreciation for and enrichment of the national heritage." It is also included in the proposed curriculum reform.

The National Planning Office and the National Department of Environmental Education prepare this special component of the curriculum along with the related instructional materials. Nongovernmental organizations (NGOs) and the union of science teachers are also involved in this process.

Environmental education is a component that is integrated into all subjects, especially natural and social sciences, at the primary and secondary level. The time devoted to these activities is 1 hour per week in grades one and two; 2 hours per week in grades three to six; and 2 hours per week in the basic cycle at the secondary level.

Environmental Education in the Curriculum

Ecuador

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Geography
Grades 1 and 2/Primary	• Air, water, soil, animals, energy use	X	X	X
Grades 3 and 4/Primary	• Air, water, soil, animals, energy use	X	X	X
Grade 5/Primary	• Air, water, soil, animals, energy use	X	X	X
Basic cycle/Secondary	• Organisms and their environment; natural resources, energy, society, nature	X	X	X

Teaching Methods

According to the available information, some 20,000 teachers are involved in efforts to conduct research on environmental problems, measure river water, establish ecology clubs, and plant trees. Students take part in activities such as managing gardens and nurseries, planting trees, surveying water quality, etc.

Instructional Materials

The Fundación Natura [Nature Foundation] (an NGO), with the endorsement of the Ministry of Education, produced the existing materials. Teacher's guides, together with accompanying materials for the student, such as posters and charts are available for the primary level through the secondary basic cycle. These materials were published between 1984 and 1993 through the EDUNAT program directed by the Fundación Natura and financed by USAID.

Teacher Training

Through the Fundación Natura's EDUNAT Program, 20,000 teachers along with provincial supervisors have been trained at five-day workshops. The program has encompassed a system of follow-up that operates through centers for the loan and circulation of materials, the formation of ecology clubs, and the assessment of environmental problems.

School-based Programs Run by Nongovernmental Organizations

- The Fundación Natura, with the approval of the Ministry of Education, has carried out all of the environmental education work in the schools. This work has included teacher training, production of materials, research, and establishment of ecology clubs.

- In the coastal area, the Fundación Pedro Vicente Maldonado [Pedro Vicente Maldonado Foundation] has been involved in more small-scale activities, such as producing workbooks for fifth and sixth graders and training teachers in their use. These efforts are part of the coastal resource management project.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

El Salvador

General Information about the Educational System

Structure of the National Curriculum

El Salvador has a single national curriculum for the primary and secondary levels. The curriculum is structured by grade and level, as follows:

- Basic
  - Cycle I (grades 1 to 3)
  - Cycle II (grades 4 to 6)
  - Cycle III (grades 7 to 9)
- Secondary
  - Sciences (grades 1 to 3)
  - Humanities (grades 1 to 3)

The curriculum is designed by the Curriculum Design Office of the National Education Office. Some private schools vary the curriculum; the institutions involved design these curricula, and they are not subject to approval by the National Education Office.

History of the National Curriculum

The curriculum was revised in 1976 when "education on population" was introduced into the basic level curriculum, and "ecology and sociodemography" into that at the secondary level. In 1991 qualitative reform of the preprimary and primary levels was initiated in response to political changes occurring in the context of civil war. Mechanisms for updating the curriculum are part of the current reform and did not exist previously. A special unit of the National Education Office and the teachers who are selected to participate design the curriculum.

Distribution of the Curriculum

The curriculum is distributed to teachers and technical administrative personnel in the country's three geographic regions through training activities that inform teachers about their specific responsibilities.

Environmental Education

General Description of Environmental Education in the Curriculum

The current reform process encompasses the introduction of an environmental education component into the area of studies on health and environment; therefore, the definition is still

in the process of being worked out. The Curriculum Design Office, with the National Council on the Environment, is preparing this part of the curriculum and instructional materials.

At present, environmental education, which accounts for 10 percent of the common biological studies unit, is only taught in the first grade of secondary school. However, the programming underway envisions introducing environmental education at all grade levels. The time to be allocated to environmental education will be 2 hours per week in the first grade, and 5 hours per week in the second and third grades.

Environmental Education in the Curriculum

El Salvador

Grade/Level	Thematic Content	Natural Sciences/ Health	Biology
Grades 1 to 9	• Population, environment • Environment and health • Population and health • Prevention and health	X X X X	
Grade 1/ Secondary	• Ecology (final chapter)		X

Teaching Methods

Currently, there are no activities for teaching environmental education, with the exception of those carried out by nongovernmental organizations (NGOs), such as the environmental sanitation campaign and reforestation activities at the basic and secondary levels.

Instructional Materials

Although the programs are being disseminated, material on environmental education is not yet available for distribution.

School-based Programs Run by Nongovernmental Organizations

There are no NGOs working with the schools; they are active only in the informal sector.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

GUATEMALA

General Information about the Educational System

Structure of the National Curriculum

Guatemala does not have a single national curriculum; instead, the country's curricula reflect the needs of specific regions, ethnic groups, and the public and private education sectors.

The curriculum is structured in two levels as follows:

- Primary
  - Basic education cycle (grades 1 to 3)
  - Complementary education cycle (grades 4 to 6)
- Secondary
  - General or basic culture cycle (grades 1 to 3)
  - Diversified education cycle (grades 4 and 5, and possibly 6)

Appropriate level authorities, with the support of teachers, design the curricula. At the primary level, these authorities include SIMAC, PRONEBI, PAIN, and the regional offices; at the secondary level, PEMEN, NUFED, the regional offices, and the directors and teachers of the specific study programs. The Ministry of Education approves these curricula.

Environmental Education

General Description of Environmental Education in the Curriculum

No definition of environmental education is provided in the curriculum, and this area is covered as part of the natural sciences curriculum. The curriculum for environmental education at the primary level is prepared in collaboration with CONAMA, Bosques para la Paz [Forests for Peace], SIMAC, and others. PRONEBI is responsible for bilingual education in Mayan languages.

Environmental education is studied as part of natural sciences at the different levels. Ten percent of the school cycle at the primary level is devoted to environmental education; 5 percent, at the secondary level.

Environmental Education in the Curriculum

Guatemala

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Biology
Grades 1 to 6/Primary	• Ecosystems	X		
	• Food chains	X		
	• Energy	X		
	• Relationships among living things	X		
Grades 1 to 6/Secondary	• Developing environmental ethics		X	X
	• Deforestation	X	X	
	• The urban ecosystem	X		X
	• Pollution, environmental threats	X		

Teaching Methods

For the primary level, teaching methods include tree-planting campaigns, trash clean-up, and lectures. Primary students mostly read, copy information, and perform skits. At the secondary level, teaching methods include visits to special places, research projects, meetings, and environmental sanitation activities. Secondary students collect information to write reports.

Instructional Materials

The Ministry distributes program guides to all levels. For the primary level it provides technical support material for environmental education, including *Derecho a un ambiente sano* [*Our Right to a Healthy Environment*] and *Derecho a la salud y la nutrición* [*Our Right to Health and Nutrition*]. These materials were prepared between 1989 and 1992 by two groups: (1) La Asociación de Investigadores y Estudios Sociales [the Association for Social Research and Studies] and (2) El Medio Ambiente Hoy y Mañana [The Environment Today and Tomorrow], a technical group in Solalá sponsored by the Peace Corps and the U.S. Fish and Wildlife Service, International Affairs Division.

Teacher Training

Teachers receive training in workshops and conferences presented by the nongovernmental organizations (NGOs) that participate in environmental education programs in the schools and that are authorized by the Ministry of Education. Follow-up is carried out by SIMAC and school supervisors.

School-based Programs Run by Nongovernmental Organizations

NGOs play an important role in teacher training and preparation of environmental education support materials.

- The Programa de Educación Básica Integral (PEBI) [Comprehensive Basic Education Program] works with twenty-one departments using the *Aprende y Progresa* [*Learning and Progressing*] collection, which includes material on natural resources and the environment. PEBI produces the magazine *RAICES*, which deals with environmental education and has a circulation of over 2,000. The program receives funds from the Rotary Club and its associates.

- The Asociación de Investigaciones y Estudios Sociales has reached 2,500 teachers and students in the northern part of the country. The association produces environmental education support materials with funding from international sources.

- Amigos de las Américas [Friends of the Americas] has produced a manual for teachers in Petén Department—*Conceptos de Ecología, Conservación y las Areas Protegidas del Petén* [*Concepts in Ecology, Conservation, and Protected Areas of Petén*]—as well as a guide to the flora of Petén and another guide to its fauna. This institution receives aid from USAID and other international agencies.

- The Fundación del Centavo [Centavo Foundation] also provides teacher training with the help of USAID and the community. The Bosques para la Paz (BOPAZ) program works with primary schools and has produced a magazine on environmental education, the *Manejemos el Bosque* [*Managing our Forest*] collection, the BOPAZ newsletter, and learning modules for use as support material in the schools.

The Office of the President of the Republic obtains funds from international donors for NGO activities.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

HONDURAS

General Information about the Educational System

Structure of the National Curriculum

Honduras has a national curriculum for all levels of its educational system. The curriculum is structured in two levels as follows:

- Primary (grades 1 to 6)
- Secondary
  - Common basic cycle (grades 1 to 3)
  - Diversified cycle (grades 4 and 5, and sometimes 6)

The Curriculum Development Department, a unit of the General Office of Educational Planning of the Ministry of Public Education, designs the national curriculum. A planned curriculum reform to go into effect in 1994 is aimed at meeting the needs arising from administrative regionalization in the country.

The curriculum, as well as the requirements of experimental and technical schools, has been modified to accommodate the needs of the different language groups found in bilingual schools. General Office of Educational Planning agencies that are concerned with supervision and approval design these curricula.

History of the National Curriculum

No changes have been made in the national curriculum as a whole, only in specific areas of study or subjects. Changes were made at the primary level in 1970-71. The basic academic achievement goals for the primary level were drafted in 1986. During that same year, the curriculum guidelines for the secondary basic cycle began to be revised. The curriculum for teacher education was completely overhauled in 1988.

The need to improve educational quality, not political changes, has prompted these modifications. There is no system in place for continuous updating of the curriculum. Changes are made as needed, on a subject-by-subject basis, by national commissions composed of the teachers involved along with technical officials from the corresponding departments of the Ministry of Public Education.

Distribution of the Curriculum

The curriculum is distributed to departmental directors, secondary school principals, and directors of institutes and libraries at educational centers.

Official communications are sent out by regular mail, or, on occasion, distributed at meetings of school supervisors.

Generally, teachers are informed about the curriculum at regional or national meetings. However, since 1992 teachers have been able to receive information through educational resource centers.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is a comprehensive educational process within the formal system. The Ministry of Public Education has had an environmental education unit since 1990; in 1992 that unit became the Department of Environmental Education and Health. This department, with the Curriculum Development Department, is responsible for designing the environmental education curriculum.

In the diversified cycle of secondary school, environmental education is one of the subjects taught as part of *bachillerato* [high school certificate] studies in environmental sciences. This component has three objectives:

- To foster environmental awareness that leads to appreciation, conservation, and rational use of natural resources
- To plan and execute projects aimed at reversing ecological deterioration
- To apply methods and techniques that facilitate the transfer of knowledge about ecology and the environment at primary schools in the national educational system

The main topics in environmental education are use and abuse of natural resources, environmental action at various levels, biodiversity, ecological impact, and teaching methods. Environmental education topics are studied for 2 hours per week at the intermediate level and 3 hours per week in the *bachillerato* program.

In the six primary grades, environmental education is a component of other subjects, mainly natural and social sciences, Spanish, health, art, music, and agricultural and livestock sciences. The *Manual de Educación Ambiental* [*Manual of Environmental Education*], available for the primary level, has seven integrated units: soil, water, air, human beings, plants, animals, and life zones. Under this initiative, teachers can use the manual for two hours daily.

Environmental Education in the Curriculum

Honduras

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Agricultural and Livestock Sciences	Environmental Education Component
Primary	• Soil, water, plants, and animals	X	X	X	
	• Life zones	X	X	X	
Diversified cycle/ Secondary	• Use and abuse of natural resources				X
	• Environmental action				X
	• Biodiversity				X
	• Ecological impact				X
	• Teaching methods in environmental education				X

Teaching Methods

Teachers basically use slides, lectures, discussions, and games to implement activities. Depending on their grade level, students participate in discussions, competitions, field trips, and research. The social service project is an environmental activity that is required of students studying for the *bachillerato* in sciences. This generally involves maintaining green spaces, planting trees, or taking care of animals.

Instructional Materials

The Ministry of Public Education has distributed the *Manual de Educación Ambiental* and accompanying guidelines to all teachers. At the secondary level, only the programs and some magazines have been distributed. A collection of books, the *Mi Honduras* [*My Honduras*] series, has an environmental approach, and each book is accompanied by a teacher's guide. The materials available at the secondary level are used only for library research. The books were prepared in 1989, and the manual and other documents in 1993. The environmental education program was developed in 1992.

A team of Honduran teachers advised by national and foreign specialists developed these books. The *Manual de Educación Ambiental* was prepared by primary school teachers and educators from the National Autonomous University of Honduras (UNAH) and the Universidad Pedagógica Nacional [National Teachers' University] (UPN), with the support of the Consejo Nacional de Medio Ambiente [National Council on the Environment] (CONAMA), the Peace Corps, the Cooperación Hondureña de Recursos Forestales [Honduran Cooperative for Forestry Resources] (COHDEFOR), PNUAD, USAID, the Asociación Hondureña de Ecología [Honduran Ecology Association], and the government of the Netherlands. The programs in the diversified cycle were prepared by normal school teachers and faculty from institutions supported by specialists from UNAH, UPN, and the Peace Corps.

Teacher Training

Each year teachers are trained at 5 days of seminars and workshops. In addition, since 1993 special training in the use of the *Manual de Educación Ambiental* has been available for primary school teachers and those attending normal school. Normal schools have included the teaching of environmental education in their curriculum since 1992.

The Department of Environmental Education and Health with COHDEFOR and CONAMA is responsible for teacher training. (The Peace Corps collaborates at the primary level as well.) Follow-up on training activities is conducted through visits to provide orientation and technical assistance. Teachers meet yearly to evaluate the impact of the *Manual de Educación Ambiental*.

School-based Programs Run by Nongovernmental Organizations

Nongovernmental organizations (NGOs) play a major role in school-based environmental education activities. Nine institutions participate in some kind of environmental activity. These NGOs are mainly involved in teacher training, ecology festivals, and producing of educational materials. They are active at the local level and always collaborate at the request of the schools. Other institutions, such as the Colegio de Periodistas de Honduras [Association of Honduran Journalists], publish messages about conservation in the newspaper and produce pamphlets with the latest information on environmental education. In 1992 COMUNICA and Editorial Guaymura (Guaymura Publishers) produced the children's music tape "La fiesta de los bosques" ["The Fiesta in our Forests"].

NGOs manage their funds with the help of local entities; international agencies have their own internal funds to produce materials and provide training.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

JAMAICA

General Information about the Educational System

Structure of the National Curriculum

Jamaica has a national curriculum which is structured in three levels as follows:

- Primary (grades 1 to 6)
- Lower secondary (grades 7 to 9)
- Upper secondary (grades 10 to 13)

The Core Curriculum Unit of the Ministry of Education and Culture designs the curriculum.

There are no variations of the curriculum at the primary level; for grades seven to eleven, however, variations do exist that reflect the type of school and the examination level. The Caribbean Examination Council, General Certificate of Education, Universities of London and of Cambridge designed these curricula. The Ministry of Education and Culture approves all variations.

History of the National Curriculum

The curriculum for grades seven to nine was revised in 1991; the curriculum for all secondary grades, in 1992. The primary level mathematics curriculum was revised in 1993; the rest of the primary school curriculum dates from 1980.

Teachers from the appropriate level update the curriculum at workshops. Education officials and curriculum specialists at the university participate in the updating process as well.

Distribution of the Curriculum

The curriculum is distributed to all units in the educational system through workshops, as well as directly from the Ministry of Education and Culture. Teachers are also informed about the curriculum at their training workshops.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is not specifically defined in the curriculum. The Core Curriculum Unit of the Ministry of Education and Culture prepares the environmental education curriculum. Environmental education is integrated into the subject areas of social studies, natural sciences, and geography at all educational levels.

Environmental education topics are studied for 40 minutes per week at the primary level, and 2 1/2 hours per week at the secondary level.

Environmental Education in the Curriculum

Jamaica

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Geography
Grade 1/Primary	• Identifying elements of the environment	X		
Grade 2/Primary	• Using environmental resources	X		
Grade 3/Primary	• Water in the environment		X	
Grade 4/Primary	• Plants and the environment	X		
Grade 5/Primary	• Temperature and the environment	X		
Grade 6/Primary	• Sound and the environment	X		
Grade 9/Secondary	• Impact of human activity on the environment	X	X	X
	• Conservation and abuse of the environment	X	X	X
	• Advantages and disadvantages of industry	X	X	X

Teaching Methods

Teachers use a combination of active and passive methods: field trips, discussions, lectures, research, observation/discussion, development of plans of action, games, and other activities. Students participate in these activities at all levels where environmental education is offered. They also take part in clean-up campaigns, prepare murals, write newspaper articles, and create models.

Instructional Materials

The Ministry of Education and Culture provides textbooks and a teacher's guide. The textbooks include information on fundamentals of self-development for grades four through six and on fundamentals of self-sufficiency for the first three primary grades. Environmental education is integrated into the texts on geography, social sciences, and natural sciences. The guides for the primary level were prepared in 1980, and other materials are in the process of being developed. Materials are prepared by officials from the Core Curriculum Unit, educators at all grade levels, education officials, schoolchildren, parents, and specialists at the university.

Teacher Training

The Ministry of Education and Culture and universities and teacher training colleges offer teachers training in geography, social studies, and natural sciences. The Hope Zoo also offers teacher training. Education officials are in charge of institutional training. Tutors from the teacher training colleges, school directors, and education officials continuously evaluate teachers.

School-based Programs Run by Nongovernmental Organizations

The Natural Resources and Conservation Authority (NRCA) contributes some environmental education activities that include opening their library to teachers and students, giving lectures in the schools, and promoting the establishment of environmental groups. The NRCA receives funding from private organizations.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

MEXICO

General Information about the Educational System

Structure of the National Curriculum

Mexico has a national curriculum for the primary and secondary levels of its education system. The curriculum is structured in two levels as follows:

- Primary (grades 1 to 6)
- Secondary (grades 1 to 5)
  - Secondary (grades 1 to 3)
  - Preparatory (grades 4 and 5, and 6 in some localities)

A group of different units, including the Ministry of Education, the National Education Institute, the Office of Primary and Secondary Education, and the Educational Content and Methods Sector, design the national curriculum.

Currently modifications of the curricula are being prepared with the help of Consejos Sociales [Social Councils or PTAs], which represent the community. The Ministry of Education approves these variations and has provided general guidelines for preparing regional or state curricula.

History of the National Curriculum

The national curriculum began to be revised in 1992 with the adoption of the Educational Reform Law. Despite the revision, environmental education continues to be part of natural sciences and geography and is being introduced into state curricula as part of the current curriculum decentralization process.

Distribution of the Curriculum

The curriculum is distributed to teachers, normal schools, and regional offices. Teachers receive curricula together with textbooks for their students through the Consejo Nacional del Texto Gratuito [National Council of Free Textbooks], which has a governmental network for distributing textbooks to education delegations who then pass them on to school districts.

Environmental Education

General Description of Environmental Education in the Curriculum

Thus far, environmental education has not been specifically defined. Environmental education is integrated into the natural sciences and geography components. It is taught as part of natural sciences in the first three grades of primary school and as part of geography in the remaining

grades. However, the reality is that science rather than environmental education is being taught. Natural sciences and geography are taught for 3 to 4 hours per week.

Environmental Education in the Curriculum

Mexico

Grade/Level	Thematic Content	Natural Sciences	Geography
Grades 1 to 3/Primary	• Using natural resources	X	
Grades 4 to 6/Primary	• Using natural resources	X	X
Grades 7 to 9/Secondary	• Using natural resources	X	X

Teaching Methods

Primary school teachers use methods such as observation/discussion, lectures, group discussions, and experiments. These same techniques are used at the secondary level, along with debates, round table discussions, and other activities.

Instructional Materials

The Ministry of Education provides textbooks and an environmental education teacher's guide that have never been used because of the lack of teacher training. The Consejo Nacional Técnico de Educación [National Technical Education Council] with other institutions developed the textbooks.

Teacher Training

The Ministry offers a system of continuing education for teacher training.

School-based Programs Run by Nongovernmental Organizations

Previously, nongovernmental organizations (NGOs) did not participate in school-based environmental education in Mexico. This year the Ministry of Education authorized the Asociación Pro-Fauna to take part in a teacher training program in environmental education in Cahuila. Because of the current decentralization process, NGOs will begin to play a more active role in formal environmental education efforts.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

NICARAGUA

General Information about the Educational System

Structure of the National Curriculum

Nicaragua's national curriculum is structured in two levels as follows:

- Primary (grades 1 to 6)
- Secondary (grades 1 to 5)

The Ministry of Education coordinates a specially organized team that designs the curriculum.

A variation of the curriculum, the Intercultural Bilingual Education Program, addresses the needs of Sumo, Miskito, and Criollo children. Regional teams of individuals who are fluent in the language of each ethnic group prepared this variation.

The Ministry approves variations of the curriculum but only supervises public schools.

History of the National Curriculum

The curriculum was revised in 1990 in response to political changes and continues to undergo a process of continuous revision. The environmental education axis was introduced in 1992 and at the present time profiles are being defined for the primary and secondary levels. The Commission of Curriculum Specialists and the Center for Democratic Studies are in charge of making changes in the curriculum.

Distribution of the Curriculum

The curriculum is distributed to schools, municipal education offices, and teacher training centers. The General Office of Administration and the General Office of Supervision are responsible for distribution. Teachers are informed about the curriculum through initial training workshops.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education in the curriculum is "oriented toward the practice of activities aimed at preserving, protecting, and developing the environment and natural resources found in [the student's] family, school, local, and national setting." The Office of Primary and Secondary School Curriculum designs and produces environmental education materials.

Environmental education is integrated into the other subjects such as Spanish, geography, and natural sciences. The time devoted to environmental education is not stated in the curriculum.

Environmental Education in the Curriculum

Nicaragua

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Geography
Grades 1 to 6/Primary	• Water, soil	X		
	• Biosphere	X		
	• The problem of erosion	X		
Grades 1 to 5/Secondary	• Ecology, ecosystems	X		
	• Natural resources			X
	• Environmental pollution	X	X	

Teaching Methods

To implement environmental education, teachers use activities such as field trips, environmental sanitation campaigns, and formation of ecology brigades. Students at the different levels participate in these activities.

Instructional Materials

The Ministry basically provides a natural sciences textbook for students. In 1990, foreign texts were adapted, but currently national materials are in the process of being prepared.

Teacher Training

Teachers are trained in natural and social sciences, but not specifically in environmental education. The Ministry of Education is in charge of teacher training and general supervision.

School-based Programs Run by Nongovernmental Organizations

- The Fundación Nicaragüense de Conservación del Medio Ambiente [Nicaraguan Environmental Conservation Foundation] has been implementing a program to establish ecology brigades in secondary schools. This project has been carried out in thirty institutions in Managua, as well as ten institutions outside Managua. The 3,800 students involved in the project have received training in environmental education. This foundation is financed by UNESCO and the Swedish International Development Authority.

- The Instituto de Recursos Naturales [Natural Resources Institute] a governmental entity, also carries out school-based environmental education activities.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

PANAMA

General Information about the Educational System

Structure of the National Curriculum

Panama's national curriculum is structured in three levels as follows:

- Preprimary
- Primary (grades 1 to 6)
- Secondary
  - academic (grades 1 to 6)
  - vocational (grades 1 to 6)
  - teacher-preparation (grades 1 to 6)

The General Office of Curriculum and Educational Technology designed the curriculum. Private schools incorporate some variations, which are designed by the directors of the centers involved and approved by the General Office.

History of the National Curriculum

The national curriculum was revised during the 1975 educational reform process. This revision was revoked in 1977, and the 1961 curricula were reinstated. In 1981 the national curriculum was revised again, and that revision remains in place today.

Specific subjects or grade levels within the curriculum are updated by a permanent working committee for curriculum revision. This committee is composed of the following members: technicians from the General Office of Curriculum and Educational Technology, a national supervisor for each subject, university professors, a representative of secondary school teachers, and a teacher representative.

Distribution of the Curriculum

The curriculum is distributed to the Provincial Education Offices, which in turn pass that information on to the schools.

Environmental Education

General Description of Environmental Education in the Curriculum

In the curriculum, environmental education is defined as "a process whereby human beings are able to acquire knowledge and experience that they can understand, internalize, and translate into behaviors that include values and attitudes that lead them to interact more successfully with their

environment." Environmental education is integrated into the curriculum by the Office of Environmental Education and the General Office of Curriculum and Educational Technology, which work with the University of Panama, the Ministry of Health, the Ministry of Agricultural and Livestock Development, the Instituto Nacional de Recursos Renovables [National Institute of Renewable Resources], nongovernmental organizations, and international organizations. This process is described in the national environmental education strategy framed in 1992.

Environmental education is integrated into various other subject areas such as natural sciences, biology, and Spanish. The individual teacher decides how much time to devote to environmental education.

Environmental Education in the Curriculum

Panama

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Spanish	Arts	Agricultural and Livestock Sciences
Grades 1 to 6/Primary	• People and their environment	X				
	• Plants and animals				X	X
	• Forms and silhouettes of life in the open air			X	X	
	• Expressions or behavior of nature			X		
Year 1/Secondary	• The world in which we live	X				
Year 3/Secondary	• Relationships among living things	X				
Year 5/Secondary	• Conservation of natural resources					X
Year 6/Secondary	• Flora of Panama					X
	• Ecology					X

Teaching Methods

Teachers use active methods of student participation including skits, hands-on projects, research, museum visits, and exhibitions. At the primary level, in addition to the above activities, children take part in clean-up and school beautification campaigns. At the secondary level, students mount exhibitions, discuss news articles, and visit national parks. In addition, some nongovernmental organizations (NGOs) organize student drawing, essay, or poster contests on natural resources.

Instructional Materials

The Ministry of Education provides the materials for each grade level. The environmental education guides are aimed at teachers, and the textbooks containing information on environmental education were developed as much for teachers as for students. The guides were prepared in 1993; the textbooks, in previous years.

The textbooks were written by independent writers and approved by the General Office of Curriculum and Educational Technology. The guides were prepared by the Peace Corps and the Office of Environmental Education.

Teacher Training

Teachers are trained at workshops and seminars. Students at teacher training colleges receive a course in environmental education. Methodological guidelines for environmental education have been prepared for this purpose. The 1992 national environmental education strategy makes teacher training a priority. The Office of Professional Advancement for Teachers is in charge of teacher training. NGOs may organize workshops, but technicians from the Office of Professional Advancement must review and approve the content. UNESCO, the University of Panama, and other governmental institutions are also involved in teacher training.

The Office of Environmental Education is responsible for teacher follow-up. This office has twelve national coordinators who work with national supervisors to perform supervisory tasks. Follow-up involves the use of forms, telephone calls, and on-site visits to schools. Supervision is carried out mainly at primary schools.

School-based Programs Run by Nongovernmental Organizations

Five NGOs play an active role in implementing school-based environmental education activities.

- The Asociación Nacional para la Conservación de la Naturaleza [National Association for the Conservation of Nature] (ANCON) carries out a pilot program on environmental education for rural schools. The program reaches 375 students and uses the Ministry of Education environmental education guides. The program also offers teacher training.

- The Fundación PA.NA.MA [PA.NA.MA Foundation] has a similar program in urban schools.

- Dovo-Ayala-STRI is carrying out the innovative Children's Art Studio program. The organization works with different levels of children who produce artwork and plays on themes having to do with nature. Dovo-Ayala-STRI receives funds from the local congress, WWF, the Smithsonian Institution, the Fundación PA.NA.MA, Fundación ANCON, and Fundación Interamericana [Inter-American Foundation].

- The Asociaciones Cívicas Unidas por la Reforestación [United Civic Associations for Reforestation] obtains its own funds.

- Fundación Interamericana funds some Dovo-Ayala-STRI programs.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

PERU

General Information about the Educational System

Structure of the National Curriculum

Peru does not have a single national curriculum, but official curriculum plans and programs are available at the national level. These plans and programs serve as guidelines for the regions, which are authorized to modify the plans by as much as 10 percent. The curriculum is structured in two levels as follows:

- Primary (grades 1 to 6)
- Secondary (grades 1 to 5)

The General Office of Educational Technology, under the Ministry of Education, designs the curriculum.

Curriculum variations are based on regional economic as well as cultural considerations. For example, bilingual education is required in the areas populated by indigenous groups. These curricula are prepared by regional and subregional education offices. At the local level, they are formulated by private and state education centers. The Ministry of Education can approve variations of the curriculum, but the actual work of preparing them falls to the regional education offices.

Environmental Education

General Description of Environmental Education in the Curriculum

Environmental education is not defined in the curriculum. The Ministry of Education has a Technical Committee on Environment, Population, and Development that is part of the Education on Population unit. The committee is responsible for formulating environmental education objectives, which are then approved by the Ministry's General Office of Educational Technology.

Environmental education is integrated into other subject areas at both the primary and secondary level. The time devoted to environmental education is not specified in the curriculum.

Environmental Education in the Curriculum

Peru

Grade/Level	Thematic Content	Natural Sciences	Social Sciences	Geography
Grades 1 to 3/Primary	• Population and natural resources	X		
Grade 4/Primary	• Population and natural resources	X	X	
Grades 5 and 6/Primary	• Population and natural resources	X	X	
Grades 1 to 5/Secondary	• People and nature • Environmental conservation	X	X	X

Teaching Methods

Teachers use mainly traditional methods to teach environmental education. In primary school students read and write; in secondary school, they listen to lectures and dialogues, and do homework. The student's role is to receive information. At both the primary and secondary level, students copy information, listen to the teacher, and read. However, in extracurricular activities, schools use participatory techniques such as field trips, organic gardening projects, contests, clean-up campaigns, and poster design.

Teacher Training

The only teacher training in environmental education is provided by the nongovernmental organization (NGO) the Asociación Peruana para la Conservación de la Naturaleza [Peruvian Association for the Conservation of Nature], which presents an annual course on environmental education. The program, known as T'ikaywasi, is offered in coordination with the Ministry of Education's Technical Committee on Environment, Population, and Development. No follow-up is performed in the classroom. This association evaluates the programs that the teachers present for possible implementation in the community.

School-based Programs Run by Nongovernmental Organizations

Three NGOs have an agreement with the Ministry of Education to work in environmental education:

- The Asociación Peruana para la Conservación de la Naturaleza (APECO) has a teacher training project, which has reached 100,000 children. WWF finances this program.

- Proyecto Escuela, Ecología y Comunidad Campesina [Project on Rural Schools, Ecology, and Community] offers a program of ecology education for primary schools in the rural Andes. Initially this project was a forestry education program looking for job alternatives which was carried out in 1,223 mountain schools. In 1992 this project was turned over to the Ministry of Education. Currently, it is referred to as the Programa de Educación Ecológica [Ecology Education Program] and is being implemented on an

experimental basis at ninety-three rural Andean schools in five departments of Peru. This program is financed by technical cooperation from Switzerland and reaches some 13,950 children.

- AMAZONIA has a program aimed at increasing environmental awareness among children and young people. AMAZONIA works with some six hundred rural schools in programs of direct action involving students. It is financed by contributions from private national entities.

This country report summarizes information gathered from the Ministry of Education. One researcher interviewed key people, reviewed relevant documents, and then completed the survey questionnaire.

PART III

ANNEXES

ANNEX ONE

Survey Questionnaire

Academy for Educational Development

AED

Latin America and the Caribbean

Civic Education and Environmental Education in the Formal School System (Primary and Secondary)

Objectives of survey:

To understand the status and position of civic education and environmental education in the formal education systems (primary and secondary levels) of LAC countries. To compile an inventory of activities and materials in these two subjects as specified in the national curriculum (or any other curriculum of some scope) for primary and secondary education and as possible to identify nonformal activities (i.e., those taking place under the auspices of a nongovernmental organization) in these subjects that occur in the schools. To assess the status of teaching methodologies, instructional materials, and teacher training as related to these two subjects.

Definitions:

Environmental education is a multidisciplinary subject that prepares students to be responsible and informed citizens by developing:

- *environmental knowledge* regarding the interrelationship among people, society, and the natural world
- *environmental values* based on respect for protecting or improving the quality of the environment
- *environmental skills and behaviors* related to thinking critically, making decisions, and taking actions to protect the quality of the environment

Please fill in the following information for yourself and each person you interview.

Country:

Researcher:

name:

title:

address:

phone:

fax:

Ministry of Education contact:

name:

title:

address:

phone:

fax:

Ministry of Education contact:

name:

title:

address:

phone:

fax:

Ministry of Education contact:

name:

title:

address:

phone:

fax:

Ministry of Education contact:

name:

title:

address:

phone:

fax:

Other contact:

name:

title:

address:

phone:

fax:

Other contact:

name:

title:

address:

phone:

fax:

Other contact:

name:

title:

address:

phone:

fax:

I. National Curriculum

Through these questions, we are seeking to understand how the curriculum is organized and how it functions in the education system of your country. This information will provide a framework for understanding how civic education and environmental education fit into the overall education program for children and youth (first grade through final grade of secondary school).

A. Scope of curriculum

1. Is there a single national curriculum that covers education from first grade through the final grade?

2. If there is a national curriculum, how is it structured (by grade level[s], by subject[s], etc.)? Please explain. Be specific for each level of the education system in your country (e.g., primary, secondary).

3. Who designs the national curriculum?

4. If there are variations to the national curriculum, what are they based on (region, public/private status, education level, language/ethnic group, urban/rural location, etc.)? Please be specific.

5. Who designs these alternative curricula?

6. Does the Ministry of Education approve variations to the national curriculum and oversee schools that use other curricula?

B. History of national curriculum

If there is NO national curriculum in your country, do not answer these questions.

1. When was the national curriculum last updated/revised? If different parts of the national curriculum (by grade level or by subject) were revised in different years, please give specific dates for civic education and for environmental education.

2. Under what circumstances was the national curriculum revised (e.g., education reform, political change)?

3. How is the curriculum for different subjects or grade levels kept up-to-date?

4. Who participates in revising and updating the curriculum?

C. Distribution of national curriculum

If there is NO national curriculum in your country, do not answer these questions.

1. To what units of the education system (e.g., teacher training institutes and normal schools, regional education offices, school supervisors, schools) is the curriculum distributed?

2. How is the curriculum distributed to these units?

3. How are teachers informed of the parts of the curriculum they are responsible for teaching?

II. Environmental Education

With these questions, we are seeking information that is centrally available about the subject of environmental education at the primary and secondary levels of the education system in your country.

A. Status of environmental education in the curriculum

1. How does the curriculum define environmental education?

2. What division or unit of the Ministry of Education is responsible for the development of the curriculum and the preparation of instructional materials for environmental education?

3. Is environmental education a separate subject in the curriculum?

If it is, then please answer the following questions:

- At what grade levels is environmental education taught?

- What are the major objectives and topics of environmental education at each grade level that includes environmental education?

- How much time is allocated per week at each grade level to environmental education?

4. Is environmental education a component of other subjects such history or social studies?

If it is, then please answer the following questions:

- What subjects include environmental education?

- At what grade levels do these subjects include environmental education?

- What topics (lessons) of these subjects focus on environmental education? Please specify topics by grade level and subject.

- How much time per week is allocated to lessons dealing with environmental education? (If not stated clearly in the curriculum, then estimate what portion of the subject is dedicated to environmental education.)

B. Teaching methodology

We are very interested in understanding how environmental education is taught. Although you may not be able to collect many examples from your contacts, please include examples wherever possible.

1. What kinds of activities do teachers use in environmental education classes (e.g., lectures, research, debates, role-playing, field trips)? Please give examples of the most common activities at both the primary and secondary levels.

2. What kinds of activities do students participate in during environmental education classes (e.g., reading, copying material, listening to teacher, memorizing material, conducting research, role playing, going on field trips)? Please give examples of the most common activities at both the primary and secondary levels.

3. What other activities do schools use to teach environmental education (e.g., school or class governments)? Please give examples at both the primary and secondary levels.

C. Instructional materials

If possible, please obtain samples of instructional materials (for example, descriptive pamphlets, teacher guides, student textbooks) to send to AED.

1. Does the Ministry of Education provide instructional materials (for example, descriptive pamphlets, teacher guides, student textbooks) for environmental education?

2. If instructional materials exist, please specify by grade level if there are textbooks for students and guides for teachers.

3. When were the instructional materials developed? Please specify by grade level.

4. Who developed the instructional materials?

D. Teacher training

1. What kind of training do teachers receive to teach environmental education? Please be as specific as possible about the kinds of training available and who participates in each kind (e.g., courses, workshops, academic specialization). If possible, give information for both the primary and secondary levels of education.

2. Who is responsible for designing and carrying out the training? If possible, give information for both the primary and secondary levels of education.

3. Does teacher training include any kind of follow-up in the classroom? If training does include some follow-up, please describe the nature of the follow-up and who provides it. If possible, give information for both the primary and secondary levels of education.

E. School-based programs run by nongovernmental organizations

We want to learn about school-based programs that are conducted by nongovernmental organizations. Please include full contact information on each NGO and try to interview someone from the NGO directly to gather information and materials about such programs. Add additional pages to provide this information; use one page for each NGO.

1. Are there environmental education activities that take place in the schools under the auspices of nongovernmental organizations (NGOs) or private voluntary organizations?

If there are, please answer the following questions:

2. What nongovernmental organizations (NGOs) are carrying out environmental education activities? Please give the name of the director, the name of the organization, its address, telephone number, and fax number for each organization.

3. What kinds of activities is each NGO conducting? Please identify the scope of the activity in terms of the grade level, the number of schools and children involved, the time allocated per week for the activity, the topics addressed, and the existence of teaching materials. Please arrange information by NGO identified above in question 2.

4. How are these activities funded? Please organize information by NGO identified above in question 2.

ANNEX TWO

Nongovernmental Organizations

ORGANIZATIONS

Argentina

Conciencia

Contact: Sofía Laferrere de Pinedo
President
Florida 633 - 3 piso, Capital Federal
Telephone: (541) 393-5191
Fax: (541) 393-7196

Fundación Ambiente y Recursos Humanos (FARN)

Contact: Pedro Tarak
Director
Monroe 2142, Capital Federal, postal code - 1428
Telephone: (541) 781-6115

Bolivia

CEMSE

Contact: Rivdo. Jorge Frías
C/Pichincha
Telephone: (591) 2-343894

IEP: Acción Un Maestro Más

Contact: Fernando Salas
C/Socabaya 340
Telephone: (591) 2-341954
Fax: (591) 2-353850

LIDEMA-CIEC

Contact: Ximena Zabala
Av. Ecuador 2459 Casilla 159
Telephone: (591) 2-324597
Fax: (591) 2-328933

Contact: Oscar Aguilar
C/Alfredo Ascarrunz 2655
Telephone: (591) 2-360042
Fax: (591) 2-320600

Contact: Bladimir Forero
Santa Cruz/Bolivia
Telephone: (591) 2-399252

Chile

El Canelo de Nos

Contact: Francisco Vio Grossi
Av. Portales 3020—Paradero 6
Casilla 2D
San Bernardo, Chile
Telephone: (562) 859-32-62 or (562) 859-37-13
Telex: 29480 CANEL CL

CIDE

Contact: Jorge Zuleta
Program Coordinator
Erasmo Escala 1825
Santiago, Chile
Telephone: (562) 698-7153
Fax: (562) 671-8051

Colombia

Grupos Ecológicos de Risaralda

Corporación Penca de Sábila (Antioquia)

Corporación Colegio Verde (Villa de Leyva, Boyacá)

Fundación Ecológica Resembrar de Nariño

Asochocó

Contact: Luis Gilberto Murillo Rutia
Director
Apartado Aéreo 410
Quibdó, Chocó
Telephone: (571) 711602 or (571) 510343

Costa Rica

Alianza de Niños para la Protección del Ambiente

Contact: Lorena González
President
Apdo: 7128-1000
San José, Costa Rica
Telephone: (506) 24-1724
Fax: (506) 24-1725

Asociación Protectora de Arboles

Contact: Miguel Soto Cruz
Executive Director
Apdo 512-110, Tibas
San José, Costa Rica
Telephone: (506) 36-7145
Fax: (506) 40-8832

Asociación Costarricense para la Protección de los Ríos

Contact: Carlos Rodríguez
President
Apdo 4600-100
San José, Costa Rica
Telephone: (506) 33-6455
Fax: (506) 22-9936

ASCONA

Contact: Rudy Guerrero Portales
Executive Director
Apdo 8-3790-1000
San José, Costa Rica
Telephone: (506) 22-2296 or (506) 53-4963
Fax: (506) 53-4963

Asociación Cultural Sejekto de Costa Rica

Contact: José Dualök Rojas
President
Apdo 906-2150
San José, Costa Rica
Phone/Fax: (506) 40-8373

Asociación Centro Ecológico La Pacífica

Contact: Ing. Jorge Manuel Dengo
Director
Apdo 8-5700 Cañas, Guanacaste ó 1124-1000
San José, Costa Rica
Telephone: (506) 69-0050
Fax: (506) 31-4429

Dominican Republic

(No environmental NGOs)

Ecuador

Fundación "Natura"

Contact: Yolanda Kakabadse
Executive President
Av. América 5653 y Voz Andes
Quito, Ecuador
Telephone: (593) 2-447341 or (593) 2-447342

OIKOS

Contact: Marco Encalada
Executive Director
Luxemburgo 172 y Holanda
Quito, Ecuador
Telephone: (593) 2-242524

El Salvador

(No environmental NGOs)

Guatemala

Fondos del Gobierno Administrados por CATIE

Contacts: Ing. Agrónomo Bladimiro Villeda, Director
Ing. Luis Fernando Pereira
Bosques para la Paz, 23 Av. 0-95
Zona 7, Interior 1
Telephone: (502) 740284
Fax: (502) 739996

Honduras

UNICEF

Contact: Patricio Fuentes
Edificio Naciones Unidas
Colonia Palmira
Telephone: (504) 31-1614

CONAMA

Contact: Dr. Carlos Medina
Colonia Alameda
frente Agencia de Publicidad ZEUS
Telephone: (504) 32-4436
Fax: (504) 32-7718

Recursos Apropiados para el Medio Ambiente

Contact: Rosa María de Salinas
Av. Valle, Casa 775
Choluteca

Comité para la Defensa y Desarrollo de la Flora y Fauna del Golfo de Fonseca

Contact: Jorge Varela
San Lorenzo, Valle

Organización Privada de Desarrollo "San José Obrero"

Contacts: Padre Alejandro López Tuero and Cleto Montoya
Barrio la Libertad
Choluteca
Telephone: (504) 82-2084

Jamaica

Natural Resource and Conservation Authority

Contact: Franklin McDonald
53 1/2 Molynes Rd.
Kingston 10, Jamaica W.I.

The Hope Zoo Education Committee (ZIP)

Contact: Mrs. Rhema
Curator
Office of Disaster Preparedness
Hope Road
Kinsgton 6, Jamaica W.I.

Nicaragua

IRENA

Contact: Enrique Cedeño
Fte al Aeropuerto Internacional Augusto Cesar Sandino
Telephone: (505) 2-631868
Fax: (505) 2-631268

Panama

Fundación de Parques Nacionales y Medio Ambiente (PA.NA.M.A.)

Contact: Ing. Enrique Castillo, President
José A. Palma, Executive Director
Apdo 6-6623 El Dorado Panamá
Rep. de Panamá
Telephone: (507) 25-7325 or (507) 25-7327
Fax: (507) 25-7314

Asociación Nacional para la Conservación de la Naturaleza (ANCON)

Contact: Juan Carlos Navarro Q.
Executive Director
Apdo 1387
Panamá 1, Rep. de Panamá
Telephone: (507) 64-8100
Fax: (507) 64-1836

Asociaciones Cívicas Unidas para la Reforestación (ACU)

Contact: Nidia Aguirre
President
Apdo 6837, Zona 5
Panamá
Telephone: (507) 23-9466

DOVO-YALA

Contact: Eligión Alvarado
Director
Apdo 83-0308, zona 3
Panamá
Phone/Fax: (507) 32-5978

Instituto de Investigaciones Tropicales Smithsonian (STRI)

Contact: Ira Rubinoff
Director
Apdo. 2077 Balboa-Ancón
Telephone: (507) 27-6022
Fax: (507) 32-5978

Parque Natural Metropolitano

Contact: Daniel Holness C.
Administrator
Apdo 5499
Balboa-Ancón
Telephone: (507) 32-5516 or (507) 32-5552
Fax: (507) 32-5978

Peru

Proyecto Escuela, Ecología y Comunidad Campesina (PEECC)

Contact: Luz Loayza
Director
Programa de Educación Ecológica a Nivel Primario
para Zonas Rurales Andinas
Carlos Concha 190—San Isidro
Lima 27, Peru
Telephone: (511) 4-415715
Fax: (511) 4-415773

T'Ikaywasi

Contact: Silvia Sánchez
Director
Programa de Capacitación en Educación Ambiental (APECO)
Parque José de Acosta 187—Magdalena
Lima 17, Peru
Telephone: (511) 4-625410
Fax: (511) 4-633048

Amazonia, Programa de Sensibilización en Educación Ambiental para Niños y Jóvenes

Contact: Julio Caña
Director
Av. 28 de Julio 299-A Barranco
Apartado Postal No. 1696
Lima, Peru
Telephone: (511) 4-774812

ANNEX THREE

Future Events in Environmental Education

FUTURE EVENTS

UPCOMING EVENTS OF IMPORTANCE IN ENVIRONMENTAL EDUCATION IN THE LATIN AMERICAN REGION

Segundo Congreso Iberoamericano de Educación Ambiental
[Second Iberian-American Congress in Environmental Education]
Argentina
November 1994

The Second Iberian-American Congress in Environmental Education will gather representatives from all of the countries of Latin America and Spain. The conference methodology will be workshops that are broken into sectors to find the problems that affect the sector and arrive at resolutions that can be applied. For information, please contact

Arturo Curiel Ballesteros
Coordinador Educación Ambiental
Universidad de Guadalajara
Emerson 73, Sector Juárez
Apartado Postal 52-29
Guadalajara, Jalisco
Mexico
Telephone 52 (3) 625 51 57
Fax 52 (3) 626 66 55

Reunión Annual de la Asociación Norteamericana de Educación Ambiental (NAAEE)
[Annual Meeting of the North American Association of Environmental Education]
Cancún, México
September 1994

The Annual Meeting of NAAEE is the first one to be held in Mexico. There will be approximately 300 Spanish presentations, representing each of the countries of Latin America. In addition, there will be English presentations expounding on the state of environmental education in the United States and Canada. For information, please contact

Janet Thoreen
NAAEE Publications Office
P.O. Box 400
Troy, Ohio 45373
U.S.A.
Fax (513) 676-2514